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BULLETIN No. 94-12

LAND AND WATER USE IN SACRAMENTO VALLEY WEST HYDROGRAPHIC UNIT

Volume I: Text

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AUGUST 1967

RONALD REAGAN
Governor
State of California

WILLIAM R. GIANELLI
Director
Department of Water Resources

STATE OF CALIFORNIA
The Resources Agency
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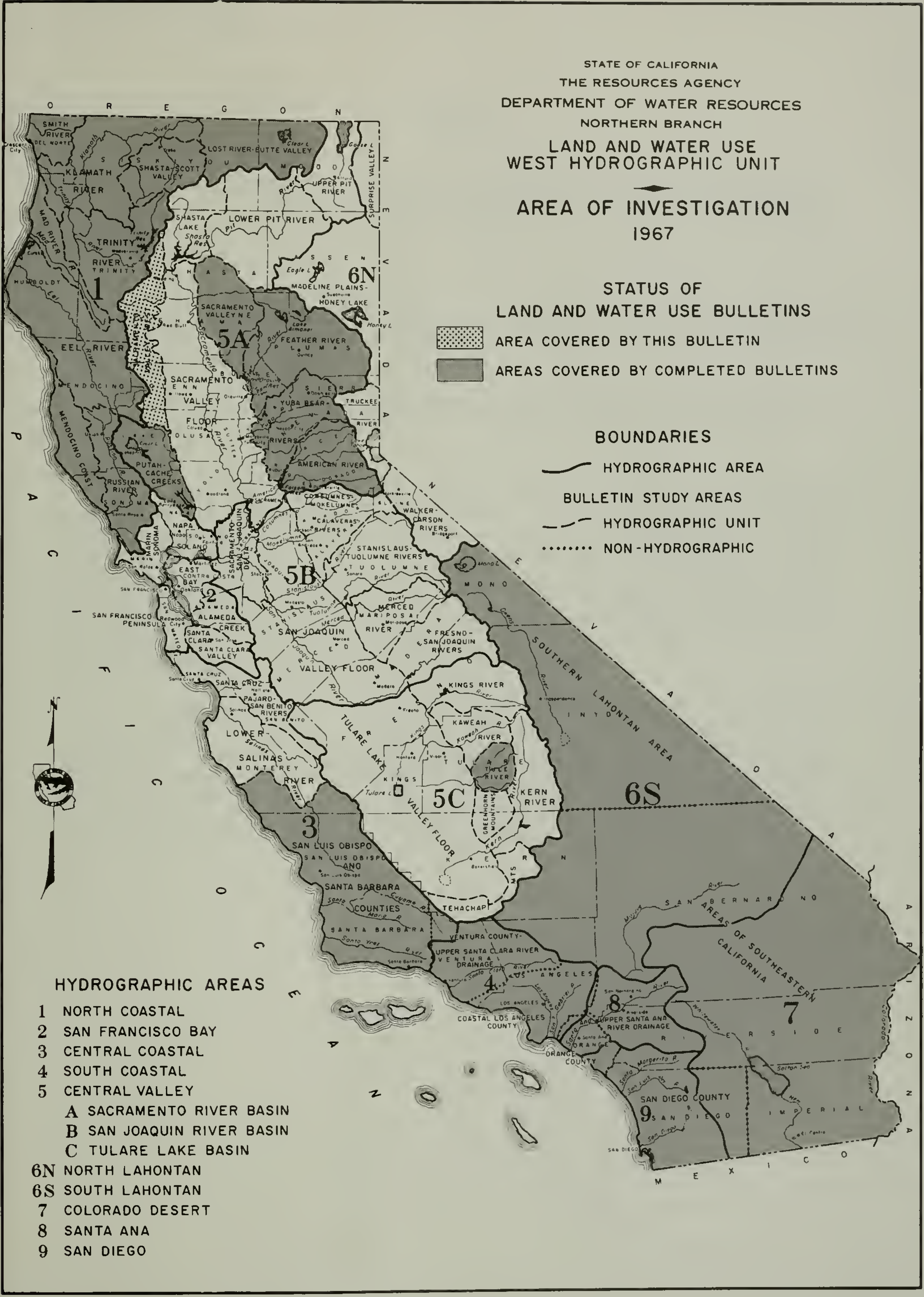
LAND AND WATER USE BULLETINS

Bulletin No. 94 Series

Bulletin No.	Hydrographic Unit Covered	Year of Survey
94-1	Tule River	1957
94-2	Trinity River	1957
94-3	Yuba - Bear Rivers	1957-58
94-4	Smith River	1958
94-5	Shasta - Scott Valleys	1958
94-6	Klamath River	1958
94-7	Mad River - Redwood Creek	1958
94-8	Eel River	1958-59
94-9	Lost River - Butte Valley	1959
94-10	Mendocino Coast	1959
94-11	Russian River	1959
94-12	Sacramento Valley West	1959
94-13	Putah - Cache Creeks	1960
94-14	American River	1960
94-16	Sacramento Valley Northeast	1962
94-17	Feather River	1962-63

Bulletins Similar to the Bulletin 94 Series

Bulletin No.	County or Drainage Area Covered	Year of Survey
24-60	Coastal Los Angeles County	1960
70-64	Orange County	1964
71-64	Upper Santa Ana River Drainage	1964
101	Southeastern Desert Areas	1958
102	San Diego County	1958
103	San Luis Obispo and Santa Barbara Counties	1959
121	Southern Lahontan Area	1961
122	Ventura County and Upper Santa Clara River Drainage	1961



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LAND AND WATER USE
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AREA OF INVESTIGATION
1967

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1	NORTH COASTAL
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4	SOUTH COASTAL
5	CENTRAL VALLEY
A	SACRAMENTO RIVER BASIN
B	SAN JOAQUIN RIVER BASIN
C	TULARE LAKE BASIN
6N	NORTH LAHONTAN
6S	SOUTH LAHONTAN
7	COLORADO DESERT
8	SANTA ANA
9	SAN DIEGO

FOREWORD

This bulletin is one of the Bulletin 94 series, which presents land and water use data for various watersheds as a basis for planning the State's future water development program. The bulletin is published in two volumes.

Volume I contains tables of land and water use data. Appendix A describes the procedures and standards employed in making the land use and classification surveys. These procedures and standards are also applicable to other reports in the Bulletin 94 series.

Volume II, published in April 1965, contains maps showing land and water use, land classification, and explanations of the maps and symbols used.

The investigations leading to the Bulletin 94 series were initiated in 1956, at which time the Legislature authorized the Department of Water Resources to determine the water resources and requirements of the respective watersheds in the State. Among the items which the Legislature directed the Department to report on are: (1) the present use of water in each watershed, (2) the quantities of water originating within each watershed and the quantities needed for future development of those watersheds, and (3) surplus water available for export from watersheds of origin and the areas which can be served thereby.

The Bulletin 94 series published under this program reports the status of land and water use and the classification of lands in each watershed. This information, together with economic considerations and other factors, forms the groundwork for projecting future water requirements. The projections, made on a uniform basis for the entire State, are essential to selecting and scheduling of facilities necessary to satisfy all of California's water needs for the foreseeable future.

William R Gianelli

William R. Gianelli, Director
Department of Water Resources
The Resources Agency
State of California
June 23, 1967

ACKNOWLEDGMENT

The Department of Water Resources gratefully acknowledges the information furnished and the time and effort so graciously expended by the various water users and residents of the Sacramento West Hydrographic Unit and by the agencies of the federal, state, and local governments.

The assistance of all persons and agencies whose cooperation made possible the review of the original data is especially appreciated. The Farm Advisors of Shasta, Tehama, Glenn, and Colusa Counties reviewed the land classification maps shown in Volume II. Personnel of the county water agencies assisted in arranging local review sessions. Various other organizations and individuals most graciously made facilities available for the meetings.

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The Resources Agency
DEPARTMENT OF WATER RESOURCES

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ABSTRACT

The Sacramento Valley West Hydrographic Unit covers an 1874-square-mile area in the foothills and mountains of the western parts of Shasta, Tehama, Glenn, and Colusa Counties. The area comprises a large part of the westside tributary drainage to the Sacramento River below Shasta Lake. Principal tributary streams include Cottonwood, Thomes, and Stony Creeks. Elevations range from 500 feet along the valley floor to a maximum of 8092 feet in the mountains along the western edge of the area.

A survey in 1959 indicated that approximately 2000 acres are presently irrigated, 5600 acres dry-farmed, 469 acres devoted to urban use, and 214 acres used for recreation.

Present water developments in the unit consist of Whiskeytown, East Park, Black Butte, and several small reservoirs. Principal projects being considered for the area include the Paskenta-Newville complex on Thomes Creek and multiple-purpose projects on Cottonwood Creek. Water for irrigation is supplied by surface diversion from streams and by pumps from ground water. The water use surveys (1959) revealed that 55 systems were diverting surface water in the area.

Court decrees have established various rights to the use of water from Cottonwood Creek and Thomes Creek. A U. S. District Court decree has established rights to water from Stony Creek. The Department of Water Resources' watermaster service area on the North Fork of Cottonwood Creek administers the water rights to that stream under the watermaster service. Both public and private entities divert from Stony and Thomes Creeks for irrigation and domestic purposes.

CHAPTER I. INTRODUCTION

This bulletin contains land and water use data collected in 1959 and land classification data collected in 1961. These data are essential in estimating future water needs within the Sacramento Valley West Hydrographic Unit.

This narrow, north-south oriented hydrographic unit forms the western watershed of the Sacramento Valley. It embraces all of the west-side tributary streams which feed the Sacramento River from Shasta Lake on the north to Clear Lake on the south. The unit encompasses the western portions of Shasta, Tehama, Glenn, and Colusa Counties and the eastern portion of Lake County. The unit is 160 miles long and 32 miles wide and contains an area of about 1874 square miles.

The topography of the unit varies greatly from the gently eastward sloping foothills adjacent to and above the Sacramento Valley Floor to the rugged mountain peaks and ridges along the western boundary. Elevations vary from 500 feet in the eastern portion near the valley floor to 8092-foot South Yolla Bolly Mountain in the Coast Range. A number of mountain peaks along the western edge of the unit exceed the 6000-foot elevation.

Portions of three national forests are located within the area and account for 45 percent of the hydrographic unit. Within the boundaries of these three national forests, approximately 80 percent of the land is owned by the Federal Government and the remaining 20 percent is privately owned. The southern half of the unit area encompasses about 37 percent of Mendocino National Forest; the northern half of the unit encompasses about 10 percent of the Trinity National Forest and less than 5 percent of the Shasta National Forest.

The unit can be divided into three basic geologic regions. The southern half of the unit consists of the Franciscan precretacious sedimentary rock. The area north of Yolla Bolly Mountain consists of precretacious metamorphic limestone deposit, which phases into granitics immediately north of the Ono and Mississipian marine deposits north of State Route 299. The western and northern parts of the hydrographic unit are characterized by steep ridges and narrow gorges which cut through the older basement-complex rock formations. These rocks include metamorphic and igneous intrusive types, which contain most of the mineral deposits of the unit. In the lower valley of the hydrographic unit, recent alluvial deposits are water-bearing in part and may form local ground water basins with limited capacities.

Soil textures over most of these areas range from medium to fine with the medium-fine texture predominating. Effective rooting depths of soil range from less than one foot to more than four feet. Soils suited to only shallow-rooted crops predominate in the unit. Deep soils are located often along stream channels.

Vegetative species vary greatly in this unit. The foothills region is characterized by oak- and grass-covered slopes. Portions of the foothill-terrace region are covered by dense stands of manzanita brush interspersed with digger pine. High elevations in the Coast Range and Trinity Mountains produce douglas fir, white fir, California red fir, ponderosa pine, sugar pine, and incense cedar.

Annual precipitation in the unit varies from 18 to 35 inches along the eastern edge of the unit to 65 inches in the higher elevations. Precipitation in excess of 40 inches generally begins along the base of of the Trinity Mountains at approximately the 2000-foot elevation, while in the Coast Range farther south the same amount of precipitation occurs at the 3000- to 4000-foot elevation.

The first recorded expedition by white man into the northern Sacramento Valley area was that of Luis Arguello in 1821. Jedediah Strong Smith came through the area in 1828 and established a Trinity trail through what are now Trinity and Humboldt Counties. Hudson Bay Company trappers were in the area from 1832 to 1845, and John Bidwell explored portions of the general area in 1843. Others followed, including Peter Lassen, John Dye, William Chard, Robert Thomas, and Albert Toomes. These people chose Mexican land grants along the Sacramento Valley; P. E. Reading chose a land grant in 1844 and 1884 established the Shasta-Weaverville road near the present route of State Route 299 west of Redding.

Significant population increases took place in 1848 when gold was discovered near the mouth of Clear Creek Canyon. Whiskeytown and Shasta were settled in 1849 as mining towns. Since the early days, gold, copper, silver, pyrite, chromite, lead, zinc, mercury, iron ore, manganese ore, and gemstones have been mined within the hydrographic unit. Colonel B. F. Washington, great-grandson of Lawrence Washington, brother of George Washington, settled in the area in 1849 and served as agent for the Nonmee Lacke Indian Reservation in what is now the Paskenta district. There are two small Indian reservations left in the unit. These are the Grindstone-Rancheria Reservation of about 15 acres near the town of Elk Creek and the Paskenta-Rancheria Reservation of 260 acres near Paskenta.

Extensive dry-land farming of oats, barley, and winter wheat was established in the foothills ranch lands, largely to supply the needs of the gold miners. This farming was practiced until 1921 when low yields and low prices forced a reduction in acreages. Population in the northern part of the unit in Shasta County decreased between 1910 and the mid-1930's and increased afterwards. The population of the area is now increasing slowly with people who have retirement, recreation, and suburban living in mind. It is anticipated that with the construction of additional recreation facilities such as Whiskeytown Reservoir, the population will increase considerably in the future.

For the studies discussed in this bulletin, the hydrographic unit was divided into twelve hydrographic subunits. These subunits are shown on the "Index to Figures and Subunits" in Volume II. Areas of the subunits are given in Table 1.

TABLE 1

AREAS OF SUBUNITS

	County (acres)					Total Area	
SUBUNIT	Shasta	Tehama	Glenn	Colusa	Lake	Acres	Sq. Mi.
Beegum Cottonwood	107,173	51,809	0	0	0	158,982	249
Clear Creek	146,161	0	0	0	0	146,161	229
Cold Fork	0	126,782	0	0	0	126,782	198
Dry Creek	0	80,611	0	0	0	80,611	126
East Park	0	59,524	0	66,081	0	66,081	103
Elder Creek	0	59,524	0	0	0	59,524	93
Grindstone Creek	0	21,295	90,982	0	0	112,277	175
Ono	87,736	0	0	0	0	87,736	137
Stonyford	0	0	63,967	44,727	8,464	117,155	183
Stony Gorge	0	0	88,559	0	0	88,559	138
Thomes Creek	0	119,509	0	0	0	119,509	187
Newville	0	13,268	22,288	0	0	35,556	56
Totals	341,070	472,798	265,796	110,805	8,464	1,198,933	1,874
Percent of Total	28.5	39.4	22.2	9.2	.7		

The following shows the percent of the total area classified as irrigable lands.

Lands Presently Irrigated.	63,658 acres	5.3%
Additional Irrigable Lands	1,952 acres	.2%
Lands Unsuitable for Irrigation	1,133,323 acres	94.5%
Total Acres in Unit.	1,198,933 acres	100.0%

CHAPTER II. WATER USE

This chapter presents the results of the survey of surface water diversions and their uses in the Sacramento Valley West Hydrographic Unit. Tables 2 and 3 give information concerning surface diversions and water rights. Table 4, "Applications to Appropriate Water", shows that 207 applications have been filed with the State Water Rights Board on streams in the units. As a result of these filings, 38 licenses have been issued and 152 permits granted. Of the remaining 17 filings, neither permit nor license has been issued. Table 5 shows index to surface diversions.

There are a number of water right owners in the North Fork Cottonwood Creek Watermaster Service Area, the only watermaster area in the hydrographic unit. Water allotments in this service area total 30.30 cfs. These rights, as shown in the following paragraphs, are for diversions of varying amounts from North Fork of Cottonwood Creek and Tributaries near Rainbow Lake.

A decree concerning North Fork Cottonwood Creek water rights, Case No. 5479, dated June 9, 1920 provides the following water rights:

Water Rights not Subject to Proportionment

Decreed Name	Present Owner	Stream	Ditch	Amount cfs
J. Moon	L. Shoup	Moon Creek	Moon & Becker	1.625
J. Gobel	Happy Valley Irrig. Dist.	N. Fork Cottonwood	Gobel	0.30
Happy Valley Irrig. Dist.	Happy Valley Irrig. Dist.	N. Fork Cottonwood	Forrester	0.30
Sunny Hill Mining	F. Morsicano	N. Fork Cottonwood	----	0.05
Greene	S. Wixson	Jerusalem Creek	Jerusalem	1.25
Hamlin	J. Taylor	Jerusalem Creek	Jerusalem	1.25
J. Grant	C. Shoup	N. Fork Cottonwood	Grant Pipe Line	0.05
			Subtotal	4.825

Water Rights Subject to Proportionment

Decreed Name	Present Owner	Stream	Ditch	Amount cfs
Bee Creek Ditch Co.	C. Shoup	N. Fork Cottonwood	Bee Creek	5.10
Sweeny & Henriques	J. Sullivan	N. Fork Cottonwood	McClanahan & White	2.50
Heins & Ponte	R. Walden	N. Fork Cottonwood	Schumen-Reagan	1.75
Shasta Dredging	M. Erhmann	N. Fork Cottonwood	Pump	0.125
Happy Valley Irrig. Dist.	Happy Valley Irrig. Dist.	N. Fork Cottonwood	Happy Valley Irrig. Dist.	16.0
			Subtotal	25.475
			Total	30.30

In addition to the above, the same decree entitles the Happy Valley Irrigation District to the natural flow of Hoover, Dobey, Byron, and Hulen Creeks that reaches the Happy Valley Irrigation District ditch. The flow is to be diverted at the points where the ditch crosses the respective creeks. The Happy Valley Water Company is also entitled to the natural flow of Eagle Creek that reaches the head of Eagle Creek Ditch. This flow is to be diverted through Eagle Creek Ditch and then through Gill Ditch, near the town of Ono. Additional rights on Hoover Creek, under the same decree, but outside the Watermaster Service Area, amount to 1.05 cfs.

Water rights into Stony Creek were handed down by court decree in 1920. At that time there were approximately 135 named appropriators; 100 of them had rights dating back to 1870.

Thomes Creek, the remaining principal stream within the unit has not as of this date (1967) been adjudicated, although many applications have been made with the Water Rights Board.

Information relative to the 55 surface water diversion systems studied and reported on in this volume includes: the location and description of the systems; the uses served by them; the water rights upon which they apparently are based; and pertinent historical facts. Also included are the monthly quantities of water diverted. The data presented are for the year 1959 except as noted. The criterion for inclusion of an individual's diversion was based on the amount of diversion; small diversions of only one or two domestic users were omitted.

Public Water Agencies

There are six organized public water districts within the Sacramento West Hydrographic Unit. These are as follows:

Elk Creek Community Service District -- Elk Creek community
Flournoy subdivision water supply -- town of Paskenta
Bee Creek Ditch and Water Association -- Ono community
French Gulch ditch system -- French Gulch community
Shasta Community Service District -- Shasta area
Brown Water System -- French Gulch community

County officials and agencies responsible for water matters in the unit are the Shasta County Director of Water Resources, the Tehama County Flood Control and Water Conservation District, and the Glenn and Colusa Counties Boards of Supervisors.

Imports and Exports

Strictly speaking, there are no import or export projects in the area. The Trinity Division of the Central Valley Project does, however, import water through the area. Water is conveyed from a point near the Lewiston Dam through Clear Creek Tunnel into Whiskeytown Reservoir. With the exception of relatively small amounts of water used in and around the reservoir area for recreation, and about 15,000 acre-feet used annually for irrigation and municipal and industrial uses in the Happy Valley area (which is outside the hydrographic unit), this water is conveyed into the Sacramento River system for use in the Central Valley Project. Flows from Stony Creek, which flow out of the area under natural conditions, are stored in Black Butte Reservoir and later released for use on the Sacramento Valley floor.

TABLE 2

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1957			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
BEEGUM-COTTONWOOD SUBUNIT											
D-29N/6W-20F1 54	John G. Baker*	Tributary to Middle Fork Cottonwood Creek	Stock.		Not meas.	(b)			About 1950	Storage; earth dam 18 feet high, 150 feet long, with 10-acre-foot reservoir.	Former owner: Bosworth Brothers. Subsequent owner: Earl McKenzie.
D-29N/8W-4F1 40	Mrs. Maybelle Selvester	Middle Fork Cottonwood Creek	Irrig. Stock. Domestic	5 acres by flooding 10 head cattle and horses	Not meas.	Approp.			1908	Gravity; rock dam with 0.75 miles earth ditch.	Former owner: Joseph L. Selvester.
D-29N/9W-9L1 38	William N. Burch	Middle Fork Cottonwood Creek	Irrig.	3 acres by sprinkler	Not meas.	Riparian	---	---	1953	Pump; 3-hp motor with 1,450 feet of 3-inch pipe.	
D-29N/9W-9L2 38	William N. Burch	Cow Gulch	Stock.						About 1958		
D-30N/8W-28J1 40	Roy A. Graves	Duncan Creek	Irrig. Stock.	10 acres by flooding 50 head	503	Riparian	---	---	1905	Gravity; concrete dam 6 feet high, 25 feet long, with 0.6 miles earth ditch.	
D-30N/8W-6F1 40	James J. Barr	Duncan Creek	Irrig.			Riparian			1870	Gravity; earth dam with length of ¼ mile	Former owners: Charles Stevens, Bill Sublett, David Bouer.
CLEAR CREEK SUBUNIT											
D-31N/6W-16M1 34	Fred Story	South Fork Creek	Irrig. Stock. Domestic	2 acres by flooding 150 head 12 connections	51	Riparian	---	---	1926	Gravity; rock and sheet metal dam 2 feet high, 30 feet long, with 400 feet of 14-inch steel pipe and 2,000 feet earth ditch.	Former owner: Clarence Lanieger.
D-31N/6W-17G1 34	Ellsworth Ditch Millard C. Hubbard	South Fork Creek	Irrig.* Stock.	6 acres by sprinkler 25 head of cattle 75 head of sheep and goats	100	Riparian	---	---	1858	Gravity; rockfill dam 1 foot high, 6 feet long, with 0.25 miles of earth ditch.	Former owners: Ellsworth, B. W. Cushman, Stephen R. Hubbard. Formerly served a sawmill.
D-31N/6W-19J1 34	Mrs. Ardis Paxton	Andrews Creek	Irrig.*	5 acres by flooding	Not meas.	Riparian	---	---	1850	Gravity; concrete dam 3 feet high, 30 feet long, with 0.25 miles 4-inch steel pipe.	Former owners: Dr. Archer, Andrew, Dudley Seltzer, Johnson
D-31N/6W-20Q1 34 (N)	Frank C. Wright	Andrews Creek	Irrig.*	4 acres by flooding	24	Riparian	---	---	1918	Gravity; sandbag dam 2 feet high, 12 feet long, with 0.12 miles of earth ditch.	Former owner: Charles Russell. Used for mining prior to 1918.
D-31N/6W-20Q2 (Partial Export)* 34	Happy Valley Water Company	Andrews Creek	Irrig.* Stock. Domestic	(*)	Not meas.	Approp.			1867	Gravity; concrete dam 4 feet high, 15 feet long, with 50 feet of earth ditch to ditch of diversion D-31N/6W-21D1.	Supplements Happy Valley Canal D-31N/7W-31A1. Extent and method of use described thereunder.
D-31N/6W-21D1 (Partial Export) 34	Happy Valley Water Company	South Fork Creek	Irrig. Stock.	(*)	Not meas.	Approp.			1867	Gravity; 1.5 miles of earth ditch to main canal.	Supplements Happy Valley Canal D-31N/7W-31A1. Extent and method of use reported thereunder.

* See Remarks.
For lettered footnotes, see last page of table.

TABLE 2 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1957			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
CLEAR CREEK SUBUNIT (Continued)											
D-32N/6W-7O1 28	Chester Vergnes	Clear Creek	Irrig. Domestic	(*)	None	Riparian	--	--	1894	Gravity; rock, cement, and earth dam 20 feet high, 150 feet long, with 0.75 miles of earth ditch.	Former owner: Desmond. When in use supplemented by D-32N/7W-12J1. Not used in 1959. Formerly served 11 connections.
D-32N/6W-9L1 28	Dorothy Herman*	Whiskey Creek	Irrig. Munic.	(*) (c)	101	Riparian	--	--	1862	Gravity; concrete dam 7 feet high, 30 feet long, with 1.25 miles of earth ditch and 400 feet of steel flume.	Subsequent owners: Woodward, Schilling, and Kimball. Irrigated land composed of numerous lawns and yards within the urban area of Whiskeytown.
D-32N/6W-17R1 34	George C. Kallerup	Brandy Creek	Irrig. Fish Culture	25 acres by flooding	232	Approp.	1.0 cfs	A-13015	1949	Gravity; rock, steel, and concrete dam, with 0.3 mile of earth ditch and 270 feet of 12-inch concrete pipe.	
D-32N/6W-20F1 34	Anderson Ditch Bert C. and Elsye Esmond	Brandy Creek	Irrig. Domestic	5 acres by flooding 38 connections	412	Approp.	500 MI	Book 2, page 378[d]	1850	Gravity; rockfill dam 1 foot high, 75 feet long, with 1 mile earth ditch.	Former owner: Merle Roberts.
D-32N/7W-2P1 28	John W. Davidson	Clear Creek	Irrig.	5 acres by flooding	5	Riparian	--	--	1928	Pump; gasoline, centrifugal connected to 100 feet of 6-inch pipe with 0.2 mile of earth ditch.	Former owner: A. B. Davidson.
D-32N/7W-4H1 26	Mrs. Herbert Hubbard	Crystal Creek	Irrig. Stock. Domestic	3 acres by flooding and sprinkler (b)	447	Riparian	--	--	Prior 1870	Gravity; 1.75 miles of earth ditch and 1-foot wide steel pipe.	Former owners: Charles Camden and Austin Richards.
D-32N/7W-12J1 28	Chester and Joe Vergnes	Boulder Creek	Domestic	(*)	None	Riparian	--	--	1880	Gravity; rock and earthfill dam 2 feet high, 25 feet long, with 3 miles earth ditch, 500 feet of 12-inch steel pipe, and 700 feet 24-inch steel pipe.	Former owner: Desmond. Supplements D-32N/6W-7O1. Not used in 1959. Formerly served 11 connections.
D-32N/7W-17G1 26	Southern Pacific Railroad Company	Crystal Creek	Irrig. Domestic	5 acres by sprinkler	Not meas.	Approp.	0.062 cfs 3.3 af storage	A-17264	1958	Gravity; concrete dam 2 feet high, 10 feet long, with 0.4 feet of 3-inch pipe.	Former owner: California State Division of Forestry.
D-33N/6W-29Q1 28	Robert O. Davis	Whiskey Creek	Power Recr.	15 kw	Not meas.	Approp.	2.5 cfs	A-16976	1956	Gravity; rock and concrete dam 23 feet high, 75 feet long.	
D-33N/7W-2A1 22	Florence Duggan	Clear Creek	Irrig.	8 acres by flooding	Not meas.	Approp.			1900	Gravity; concrete dam 6 feet high, 40 feet long, with 1.0 mile of earth ditch.	
D-33N/7W-2L1 26	Florence Duggan	Fivemile Gulch	Irrig.	(*)	Not meas.	Riparian	--	--	1900	Gravity; earth and sandbag dam, with earth ditch.	Supplements diversion D-33N/7W-2M1. Extent of use reported thereunder.

* See Remarks.
For lettered footnotes, see last page of table.

TABLE 2 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2	Diversion name and/or owner	Source	Water use in 195			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
						CLEAR CREEK SUBUNIT (Continued)					
D-33N/7W-2L2 26	Florence Duggan	Fivemile Gulch	Irrig.	(*)	Not meas.	Riparian	--	--	1900	Gravity; earth and rock dam, with earth ditch.	Supplements diversion D-33N/7W-2M1. Extent of use reported thereunder.
D-33N/7W-2M1 26	Florence Duggan	Fivemile Gulch	Irrig.	6 acres by flooding*	Not meas.	Riparian	--	--	1900	Gravity; direct from stream to earth ditch.	Supplemented by diversions D-33N/7W-2L1 and D-33N/7W-2L2.
D-33N/7W-11F1 28	J. A. Hildebrand	Clear Creek	Irrig. Mining	1[illegible] acres by flooding Placer	1,008	Riparian	--	--	Prior 1890	Gravity; earth and log dam 3 feet high, 60 feet long, with 1 mile of earth ditch.	Former owners: Yancy, Charles Fox, Don Fox.
D-33N/7W-15J1 26	French Gulch Ditch System E. E. Erich	Clear Creek	Irrig. Munic.	4 acres by flooding (*)	1,370	Riparian	--	--	1860	Gravity; concrete dam 2 feet high, 100 feet long, with 1.5 miles earth ditch and 0.1 miles of concrete pipe.	Former owners: Eades, Laboudigue. Municipal use is for yard irrigation and fire control in the town of French Gulch. Log dam replaced in 1955-56 with present structure.
D-33N/7W-21A1 26	A. L. Brown	Dutch Gulch	Irrig.	11 town lots by sprinkler*	165	Riparian	--	--	1860	Gravity; direct diversion to 1 mile earth ditch, 0.4 mile steel pipe of varying diameters.	Former owners: Barney, Gartland, McDonald, Jack Moran. Supplemented by D-33N/7W-21B1
D-33N/7W-21B1 26	A. L. Brown	French Gulch	Irrig.	(*)	165	Riparian	--	--	1860	Gravity; rockfill dam with 1.5 miles earth ditch and steel pipe.	Supplements D-33N/7W-21A1, former owners and extent of use reported thereunder.
D-34N/6W-31K1 22	Mehrle Jennings*	East Fork Clear Creek	Irrig. Stock. Mining	11 acres by flooding 20 head Placer	Not meas.	Approp.	100 MI	Book 32[d]	Prior 1890	Gravity; earth and rock dam 5 feet high, 30 feet long, with 1.5 miles of earth ditch.	Former owners: Westlake, McDonald, Works, Richie.
D-34N/7W-23J1 22	James and Rose Fife and James Keefer	Whitney Gulch	Irrig. Stock.	15 acres by flooding 50 head	135	Riparian	--	--	1883	Gravity and storage; board dam 4 feet high, 15 feet long, with 0.5 miles of earth ditch to small reservoir.	Former owners: Angele Whitney, Kennedy, Delany, Irwin, Wallace Freeman.
D-34N/7W-36M1 22	William Foster, Jr.	Clear Creek	Irrig. Stock.	13 acres by flooding head	518	Riparian	--	--	1918	Gravity; concrete dam 2.5 feet high, 50 feet long, with 1.5 miles of earth ditch.	Former owners: McCook, Pete Roff.
						COLD FORK SUBUNIT					
D-27N/6W-16P1 62	Marvin Graves	Cottonwood Creek	Irrig. Stock.	1[illegible] acres by sprinkler 75 head	Not meas.	Approp.			1957	Pump; gasoline, centrifugal, with 800 feet of 4-inch aluminum pipe.	
D-27N/6W-18E1 62	Cliff Cattle Company, Ltd.	Tributary to Guyre Creek	Stock.		Not meas.	(b)	--	--		Storage; earth dam 23 feet high, 300 feet long, with 10-acre-foot reservoir.	

* See Remarks.
For lettered footnotes, see last page of table.

TABLE 2 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1957			Apparent water right			Indicated date of appro-priation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
						COLD FORK SUBUNIT (Continued)					
D-27N/7W-24K1	Lester I. Burrill	Sulphur Springs S. Fk. Guyre Cr.	Irrig.	1 acre by flooding 130 head		Riparian			1951	Earth dam 27 feet high 190 ft. long	
D-27N/7W-1N1 62	Peter Hoff	Tributary to Redbank Gulch	Stock.	1,000 head	Not meas.	(b)	--	--	1948	Storage; earth dam 24 feet high, 225 feet long, with 10-acre-foot reservoir.	
D-27N/7W-31D1 60	Antelope Lumber Company	Panther Gulch	Indust. Recr.	(*)	None					Gravity and storage; earth dam 23 feet high, 225 feet long, with 22-acre-foot reservoir.	This diversion has not been used since 1955. Until then it was used for a log pond and for fishing.
D-27N/7W-25E1 62	Cliff Cattle Co.Ltd	Tributary S. Fk. Guyre Creek				Riparian				Gravity; earth dam 24 ft. high, 300ft. long.	
						DRY CREEK SUBUNIT					
D-27N/7W-6A1 60	R. V. Alford	Bone Gulch	Stock.	300 head	Not meas.	Riparian	--	--	1948	Gravity and storage; earth dam 18 feet high, 145 feet long, with 30-acre-foot reservoir.	
D-28N/7W-24A1 54	Elwood E. Owens	Tributary to Salt Creek	Stock.	Approx. 90 head	Not meas.	(b)	--	--	Prior 1945	Storage; earth dam 20 feet high, 150 feet long, with a 10-acre-foot reservoir.	
D-29N/9W-35N1 50	Dr. Sharon M. Atkins	Tributary to Cottonwood Creek	Irrig. Stock. Domestic	22 acres by flooding 100 head (e)	63	Riparian	--	--	Prior 1908	Gravity; earth dam 1 foot high with direct diversion to 0.5 mile main earth ditch.	Former owners: Nelson, Alva Graves, Dick Bishop.
						EAST PARK SUBUNIT					
D-16N/6W-2C1 118	K. E. Neibuher	Indian Creek	Irrig.	7 acres by flooding	None	Adjudi-cated			1872	Pump; 7.5-hp gasoline engine with 250 feet of 2-inch pipe.	Former owners: Wilson, John Sites, C. York. Not used in 1959. Previously irrigated 7 acres by sprinkler.
D-16N/7W-8K1 114	F. H. Cooley	Tributary to Little Stony Creek	Irrig. Domestic	6 acres flood and sprinkler (c)	4	Adjudi-cated			Prior 1940	Gravity; 50 feet of 2-inch pipe.	Former owner: E. Phelps.
D-16N/7W-8L1 114	F. H. Cooley	Tributary to Little Stony Creek	Irrig. Domestic	6 acres flood and sprinkler (c)	Not meas.	Adjudi-cated			Prior 1940	Gravity: rock dam 1.5 feet high, 4 feet long, with 0.5 mile of 2 to 6-inch pipe.	Former owner: E. Phelps.
D-16N/7W-16L1 120	O. A. Kirkpatrick	Trout Creek	Irrig. Indust. Stock. Recr. Power	3 acres by sprinkler Cooling water 6 head Nonfiltered swimpool 1.2 kw	Not meas.	Adjudi-cated			1910	Gravity; rockfill dam, 18 feet high, 48 feet long, direct to 2,000-foot pipeline*.	Earth ditch replaced by present system in 1955.

* See Remarks.
For lettered footnotes, see last page of table.

TABLE 2 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1957			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
						EAST PARK SUBUNIT (Continued					
D-16N/7W-21B1 120	Lovelady Ditch G. H. Evans	Cold Creek Spring	Irrig. Domestic	4 acres by furrow and sprinkler	5	Adjudi-cated	19 af	Page 133[e]	1917	Gravity; earth and rock dam 8 inches high, 24 inches long, with 0.25 mile earth ditch and steel pipe.	Former owner: Homer Evans
D-17N/6W-3R1 (Partial Export)* 116	East Park Reservoir U. S. Dept. of the Interior Bureau of Reclamation	Little Stony Creek Indian Creek Big Stony Creek	Irrig.	(*)	5,322*	Adjudi-cated	51,000 af	Article VIII, Sec. 2 Page 137[e]	1910	Gravity and storage; concrete dam 139 feet high, 250 feet long, with 51,000-acre-foot reservoir	Partial export to Sacramento Valley Floor Hydrographic Unit. Supplemented by D-18N/7W-35K1 in Stonyford Subunit. Supplies D-20N/6W-16J1 in Stony Gorge Subunit and D-22N/5W-38Q1. Amount diverted is evaporation only. Amounts released downstream reported under other individual diversions.
D-17N/6W-17J1 116	C. A. Morgan	Hyphus Creek	Irrig.	48 acres by flooding	Not meas.	Adjudi-cated	31.25 af 62.5 af	Page 121[e] Page 129[e]	1868 1903	Gravity; concrete dam 4 feet high, 16 feet long, with 0.5 miles of earth ditch.	Former owner: J. W. Millsaps
D-17N/6W-23M1 116	Willis Wilson	Tributary to East Park Reservoir	Irrig. Stock.	Irrigated garden only 40 head	Not meas.	Riparian	--	--	1952	Storage and pump; earth dam 10 feet high, 100 feet long, with pump 40-hp motor to distribution system.	
						GRINDSTONE CREEK SUBUNIT					
D-22N/6W-31H1 94	Clyde E. Cushman	Watson Creek	Irrig.	3 acres by flooding	33	Adjudi-cated	125-af	Page 130[e]	1865	Gravity; concrete dam 4 feet high, 60 feet long, with 2,200 feet of earth ditch.	
D-22N/6W-31J1 86	Clyde E. Cushman	Watson Creek	Irrig.	7 acres by sprinkler		Approp.			1956		
D-21N/6W-16J1 94	T. M. and Irene Tankersley	Grindstone Creek	Irrig.	35 acres by flooding	11	Adjudi-cated	93.7 af 207.0 af	Page 127[e] Page 130[e]	1897 1906	Gravity; concrete dam 4 feet high, 115 feet long, with 1.0 mile of earth ditch.	Former owner: George Ellis, J. T. Edwards, D. J. Bidegary
						NEWVILLE SUBUNIT					
D-22N/6W-4N1 86	Mrs. Dorothy Jud··	Tributary to Heifer Camp Creek	Stock.	(*)	Not meas.	(b)	--	--		Storage; earth dam 25 feet high, 300 feet long, with 20-acre-foot reservoir	Waters same stock as D-22N/6W-1G1. Extent of use reported thereunder.
D-22N/6W-8Q1 86	Mrs. Dorothy Judy	Tributary to Heifer Camp Creek	Stock.	400 head*	Not meas.	(b)	--	--	About 1940	Storage; earth dam 30 feet high, 200 feet long, with a storage reservoir.	Waters same stock as D-22N/6W-17L1 and -4N1.
D-22N/6W-17L1 86	Mrs. Dorothy Judy	Tributary to Heifer Camp Creek	Stock.	(*)	Not meas.	(b)	--	--	About 1940	Storage; earth dam 25 feet high, 100 feet long, with a storage reservoir.	Waters same stock as D-22N/6W-8Q1. Extent of use reported thereunder.
D 2N/6W-29K1 94	R. R. Millsaps	Chrome Creek	Stock. Recr.	350 head sheep* Fishing, duck hunting	Not meas.	Riparian	--	--	1946	Storage; earth dam 20 feet high, 320 feet long, with 60-acre-foot reser.	Waters same stock as D-22N/6W-29K2.
D-22N/6W-29K2 94	F. B. Millsaps	Chrome Creek	Stock.	(*)	Not meas.	Riparian	--	--		Storage; earth dam 25 feet high, 295 feet long, with 20-acre-foot reservoir.	Waters same stock as D-22N/6W-29K1. Extent of use reported thereunder.

* See Remarks
For lettered footnotes, see last page of table.

TABLE 2 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1957			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
						NEWVILLE SUBUNIT (Continued)					
D-22N/6W-29L1 94	R. B. Millsaps	Chrome Creek	Stock.	(*)	Not meas	Riparian	--	--		Storage; earth dam 23 feet high, 240 feet long, with 15-acre-foot reservoir.	Waters same stock as D-22N/6W-29K1. Extent of use reported thereunder.
D-23N/6W-28B1	Finnel Ranch	Tributary to North Fork Stony Cr.	Stock						Prior to 1948	Storage; earth dam 24 feet high, 180 feet long, with 15 acre-feet reservoir	Simpson Finnel Jr., Administrator for the Finnel Estate. Lives in San Jose.
D-23N/6W-15M1 86	Simpson Finnel, Jr.	Kendrick Creek	Stock.	(*)	Not meas	Riparian	--	--		Storage; earth dam 20 feet high, 200 feet long, with 25-acre-foot reservoir.	Waters same stock as D-22N/6W-22A1. Extent of use reported thereunder.
D-23N/6W-17H1 86	Floyd Arnett	Tributary to North Fork Stony Creek	Stock.		Not meas	(b)	--	--	1943	Storage; earth dam 25 feet high, 250 feet long, with 25-acre-foot reservoir.	
D-23N/6W-19H1 86	Estate of Agnes Wahl*	Tributary to North Fork Stony Creek	Stock.	(*)	Not meas	Riparian	--	--	1951	Storage; earth dam 15 feet high, 270 feet long, with 30-acre-foot reservoir.	Karl Wahl, Trustee. Waters same stock as D-23N/6W-29E1. Former owner and extent of use reported thereunder.
D-23N/6W-21P1 86	Floyd Arnett	Tributary to North Fork Stony Creek	Stock.		Not meas	(b)	--	--	Prior 1948	Storage; earth dam 24 feet high, 330 feet long, with 15-acre-foot reservoir.	
D-23N/6W-29E1 86	Estate of Agnes Wahl*	Tributary to North Fork Stony Creek	Stock.	200 head*	Not meas	Riparian	--	--	1938	Storage; earth dam 20 feet high, 150 feet long, with 40-acre-foot reservoir.	Karl Wahl, Trustee. Former owner: Lantz. Waters same stock as D-23N/6W-19H1.
D-23N/6W-29G1 86	J. R. "Red" Prine	Tributary to North Fork Stony Creek	Stock.	700 head*	Not meas	Riparian	--	--	1944	Storage; earth dam 20 feet high, 315 feet long, with 100-acre-foot reservoir.	Former owner: Charles Drew. Waters same stock as D-23N/6W-30F1 and -30R1.
D-23N/6W-30F1 86	J. R. "Red" Prine	Tributary to North Fork Stony Creek	Stock.	(*)	Not meas	Riparian	--	--	1944	Storage; earth dam 20 feet high, 225 feet long, with 20-acre-foot reservoir.	Waters same stock as D-23N/6W-29G1. Former owner and extent of use reported thereunder.
D-23N/6W-30R1 86	J. R. "Red" Prine	Tributary to North Fork Stony Creek	Stock.	(*)	Not meas	Riparian	--	--	1944	Storage; earth dam 25 feet high, 270 feet long, with 35-acre-foot reservoir.	Waters same stock as D-23N/6W-29G1. Former owner and extent of use reported thereunder.
						ONO SUBUNIT					
D-30/6W-16Q1 44	Sullivan, John J. and Catherine	North Fork Cottonwood Creek	Irrig. Stock.	41 acres by flooding 65 head	221	Adjudicated	100MI	--	Prior 1898	Gravity; direct diversion to earth ditch 0.75 miles long, 3 feet wide.	Former owners: Koontz, Hendricks.
D-30N/6W-27M1 44	Robert A. and Rosemary Walden	North Fork Cottonwood Creek	Irrig.	17 acres by flooding	524	Riparian	--	--	Prior 1900	Pump; gasoline engine, centrifugal with 8-inch discharge and .75 miles of earth ditch.*	Former owners: Ponte, Jim Hines, Jim Moore. Gravity diversion replaced with pump and moved .25 mile downstream, 1958. Formerly irrigated an additional 15 acres.

* See Remarks.
For lettered footnotes, see last page of table.

TABLE 2 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1957			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
						ONO SUBUNIT (Continued)					
D-30N/TW-2L1 42	Jim W. Taylor	Rechtor Creek	Municipal						1870	Gravity; earth dam 6 feet high and 25 feet long.	Supplemented by Harry Valley Co. Diversions.
D-30N/TW-2H1 44	Happy Valley Water Company f	Eagle Creek and Happy Valley Ditch	Irrig. Stock. Domestic	(f)	Not meas.	Approp.		(f)	1900	Gravity; rockfill dam 2 feet high, 20 feet long, with 1.0 mile earth ditch.	
D-30N/TW-8C1 42	Lawrence Henke	Mitchell Creek	Irrig. Stock.	4 acres by flooding 30 head	Not meas.	Approp.	--	--	After 1949	Gravity; earth dam 20 feet high, 100 feet long, with 0.75 mile of earth ditch.	Former owners: Oweo, Mitchell, Woods.
D-30N/TW-8F1 42	George and Regina G. Oweo	Tributary to North Fork Cottonwood Creek	Irrig. Stock. Domestic	4 acres by flooding 40 head 5 connections	Not meas.	Approp.		A-13260	1949	Gravity; direct diversion to 0.25 mile of earth ditch.	Former owners: John R. Archibald, Lester D. Worley.
D-30N/TW-10E1 42	Bee Creek Ditch and Water Association	North Fork Cottonwood Creek	Irrig.	117 acres by flooding	Not meas.	Approp.			1864	Gravity; log crib dam 68 feet long, 18 feet high, with 4 miles of earth ditch.	
D-30N/TW-10Q1 42	James J. Barr	Tributary to North Fork Cottonwood Creek	Irrig. Stock.	5 acres by flooding 128 head*	Not meas.	Riparian	--	--	1952	Gravity and storage; earth dam 23 feet high, 180 feet long, with 50-acre-foot reservoir.	Waters same stock as D-30N/TW-11P1.
D-30N/TW-11P1 42	James J. Barr	Tributary to North Fork Cottonwood Creek	Stock.	(*)	Not meas.	Riparian	--	--	1952	Storage; earth dam 20 feet high, 120 feet long, with 28-acre-foot reservoir.	Waters same stock as D-30R/TW-10Q1. Extent of use reported thereunder.
D-30N/TW-14L1 44	Mrs. Nancy Webb	Tributary to North Fork Cottonwood Creek	Irrig. Stock.	14 acres by sprinkler 50 head	Not meas.	(b)	--	--	1953	Storage and pump; earth dam 20 feet high, 165 feet long, with 50-acre-foot reservoir and 10-hp electric motor with 1,000 feet of 4-inch and 5-inch pipe.	Former owner: L. E. Shoup.
D-30N/TW-15P1 42	Clarence E. Shoup	Tributary to North Fork Cottonwood Creek	Stock.	100 head	Not meas.	Riparian	--	--	1952	Storage; earth dam 20 feet high, 120 feet long, with 22-acre-foot reservoir.	
D-30R/TW-22E1 42	Mrs. Nancy Webb	Tributary to North Fork Cottonwood Creek	Irrig. Stock.	5 acres by flooding 50 head	Not meas.	Riparian	--	--	1951	Gravity and storage; earth dam 20 feet high, 330 feet long, with 25-acre-foot reservoir.	Former owner: Earle Shoup.
D-31N/6W-20Q1 34, (G)	Leslie Jones	Ruling Creek	Irrig. Stock.	11 acres by flooding f 100 head f	13 f	Riparian	--	--	1850	Gravity; rock and mortar dam 3 feet high, 20 feet long, with .75 mile earth ditch.	Former owners: Ball, Edward R. Jones. Receives a supplemental supply from Happy Valley Irrigation Canal.
D-31N/TW-23H1 34	Carl Burger	Eagle Creek	Irrig. Stock. Domestic	3 acres by flooding 15 head (c)	91	Approp.	1 cfs		About 1843	Gravity; rock dam 2 feet high, 12 feet long, with 0.75 mile of earth ditch.	Former owners: Taylor, Doll, John Richter, and Bill Poole.
D-31N/TW-25L1 34	Eugene Powers	Eagle Creek	Irrig.	2 acres by flooding	157	Riparian	--	--	About 1880	Gravity; short pipe from creek to 0.5-mile earth ditch.	Former owners: Davis, Stanley Jones.

* See Remarks.
For lettered footnotes, see last page of table.

TABLE 2 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1957			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
						ONO SUBUNIT (Continued)					
D-31N/7W-31A1 32	Musselbeck Dam and Rainbow Lake. Happy Valley Water Company[f]	North Fork Cottonwood Creek	Irrig.	(f)	Not meas.[f]	Approp.			1919	Gravity and storage; hydraulic fill 110 feet high, 470 feet long, with 4,800-acre-foot reservoir.	
D-31N/7W-31P1 42	Happy Valley Irrigation Canal, Happy Valley Water Company[f]	North Fork Cottonwood Creek	Irrig.	(f)	Not meas.[f]	Approp.			1867	Gravity; concrete arch dam 30 feet high, 50 feet long, with 1.5 miles tunnel and 25 miles earth ditch.	
D-31N/7W-32R1 42	J. W. Schmitt	Ducket Creek	Irrig. Stock. Domestic	55 acres by flooding and sprinkler 140 head cattle 10 head hogs (c)	494	Riparian	--	--	1906	Gravity; rockfill dam 2 feet high, 6 feet long, with .75-mile earth ditch and 4,000 feet of 6-and 8-inch steel pipe.	
D-31N/7W-36C1 34	Happy Valley Water Company[f]	Eagle Creek		5 acres (f)	2,344[c]	Approp.			1855	Gravity; concrete dam 3 feet high, 30 feet long, with .75-mile earth ditch to main canal.	
D-31N/8W-25A1 32	Nancy M. Webb	Moon Fork Cottonwood Creek	Irrig. Domestic	11 acres by flooding (c)	212	Riparian	--	--	1854	Gravity; rockfill dam 2 feet high, 20 feet long, with 1-mile earth ditch.	Former owners: Post, Moon.
						STONYFORD SUBUNIT					
D-17N/8W-24P1 114	Letts Lake* U. S. Mendocino National Forest	Tributary to Letts Creek	Recr.	Camping, fishing	Not meas.	Approp.	--	--	1958	Storage; earth dam 16 feet high, 150 feet long, with 319-acre-foot reservoir.	Was built by the State Department of Fish and Game, is maintained by County of Colusa.
D-18N/6W-2E1 108	William Harman	Stony Creek	Irrig.	28 acres by flooding	56	Riparian	--	--	Prior 1900	Pump; 5-hp electric motor with 1.5 miles of earth ditch.	Former owner: McKaig.
D-18N/6W-4A1 108	Lawrence Moore	Salt Creek	Stock.	75 head*	Not meas.	Riparian	--	--	1949	Storage; earth dam 16 feet high, 90 feet long, with 25-acre-foot reservoir.	Waters same stock as D-19N/6W-16M1, 20M1, and 29L1.
D-18N/6W-7H1 108	Lower Lake Dan, Kathleen, and Lexandra Gilman	Tributary to Salt Creek	Stock.	400 head	Not meas.				1947	Storage; earthfill dam 20 feet high, 150 feet long, with 12-acre-foot reservoir.	Former owner: Warren Davis.
D-18N/6W-10P1 108	E. G. and Elaine Kerns	Little Stony Creek	Irrig. Stock.	48 acres by flooding 9 head cattle 4 horses	44	Adjudicated	180 afa	Page 128[e]	Prior 1912	Gravity; rockfill dam 4 feet high, 10 feet long, with 1.5 miles of earth ditch.	Former owners: Wakefield and Whalley, Frank Wahly. Formerly irrigated an additional 12 acres

* See Remarks.
For lettered footnotes, see last page of table.

TABLE 2 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1957			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					STONYFORD SUBUNIT (Continued)						
D-18N/6W-11D1 108	Carl Soeth, Jr.	Stony Creek	Irrig. Stock.	8 acres by flooding 400 head	360	Adjudicated	124 af 378 af	Page 125[e] Page 131[e]	1880	Gravity; rockfill dam 3 feet high, 10 feet long, with .5 mile of earth ditch.	Former owners: Triplett, Napka, Carl Soeth, Sr.
D-18N/6W-11Q1 110	E. G. and Elaine Kerns	Tributary to Stony Creek	Stock.	300 head	Not meas.	Approp.	9.3 af	A-20298[a]	Prior 1950	Storage; earth dam 13 feet high, 200 feet long, with 9.3-acre-foot reservoir.	
D-18N/6W-21J1 108	Alfred Gaddini	Little Stony Creek	Irrig.	54 acres by sprinkler	Not meas.	Adjudicated	--	--		Pump; 20-hp electric with 75 feet of steel pipe.	Former owners: Dunfield, Jack Dymond.
D-18N/6W-21N1 108	Brown Ditch #2 D. A. Gilman Charlie O'Leary Ray Dooling	Stony Creek	Irrig. Stock.	207 acres by flooding 250 head	1,118	Adjudicated	992 af 68 af 21 af	Page 122[e] Page 124[e] Page 132[e]	1880	Gravity; log and rockfill dam 5 feet high, 30 feet long, with a 1,300-foot earth ditch.	Former owners: O'Hara, Alex Brown, Jenochio, Dennie and Mary O'Leary.
D-18N/6W-21R1 108	Alfred Gaddini	Tributary to Stony Creek	Stock.	150 head	Not meas.	(b)	--	--	Prior 1940	Storage; earth dam 20 feet high, 150 feet long, with 14-acre-foot reservoir.	Former owners: Dunfield, Jack Dymond.
D-18N/6W-22Q1 108	Alfred Gaddini	Little Stony Creek	Irrig.	19 acres	134	(b)	--	--	1956	Pump; portable.	Former owner: Jack Dymond.
D-18N/6W-23F 110	M. X. Ranch Enon Maddux	Tributary to Montgomery Creek	Stock.		Not meas.	(b)	--	--		Storage; earthfill dam 15 feet high, 338 feet long, with 15-acre-foot reservoir.	
D-18N/6W-26K1 110	M. X. Ranch Enon Maddux	Tributary to Montgomery Creek	Stock.		Not meas.	(b)	--	--		Storage; earth dam 6 feet high, 115 feet long, with 15-acre-foot reservoir.	
D-18N/6W-27C1 108	Alfred Gaddini	Little Stony Creek	Irrig. Stock.	11 acres by flooding 50 head cattle 100 head sheep	Not meas.	Adjudicated	--	--		Gravity; direct diversion to .5 mile of earth ditch.	Former owners: Jack Dymond, Dunfield.
D-18N/6W-30Q1 108	Brown Ditch #1 D. A. Gilman J. D. Moore	Stony Creek	Irrig. Stock.	182 acres by flooding 254 head	570	Adjudicated	282 af 125 af 1,200 af 290 af	Page 124[e] Page 124[e]	1880	Gravity; direct diversion by wooden gate and flume to 2,000 feet of earth ditch.	Former owners: O'Hara, Alex Brown, Jenochio, Blunk, Cushman, Steel, Burgett, Polly, Hickok. Formerly irrigated an additional 4 acres.
D-18N/6W-31C1 108	Kesselring Ditch*	Stony Creek	Irrig. Stock.	37 acres by flooding	1,560	Adjudicated	1,308 af	Pages 121, 125, 127, 129, 131, 132[e]	Prior 1890	Gravity; direct diversion through 2 miles of earth ditch.	For present owners see Table Index of Diversions. Former owners: Kesselring, I. R. Robertson, Cal Willis.
D-18N/6W-31D1 108	Earl R. Moore	Stony Creek	Irrig. Stock.	124 acres by 150 head	1,314	Adjudicated	140 af 31 af 265 af 600 af 500 af	Page 123[e] Page 123[e] Page 124[e] Page 124[e] Page 132[e]	1885	Gravity; direct diversion by rock fill to .75 mile of earth ditch.	Former owners: Burgett, Sutliff, Johnson, Hecock, Warren Davis.

* See Remarks.
For lettered footnotes, see last page of table.

TABLE 2 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1957			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					STONYFORD SUBUNIT (Continued)						
D-18N/6W-31E1 116	G. W. Stocking Harold Walkup Leroy Walkup	Stony Creek	Irrig. Stock. Domestic	11acres by flooding 160 head 10 connections	524	Adjudi-cated	188 af	Page 123[e]	1870	Gravity and pump; earth dam 5 feet high, 10 feet long, with 1.3 miles of earth ditch, and centrifugal pump.	Former owners: Farlee, J. Morris, A. T. Welton, Cummings, Ralston, Morris, J. Walkup, and R. Walkup.
D-18N/6W-32G1 116	Arthur J. Moody	Salt Creek	Irrig.	11 acres by flooding	Not meas.	Adjudi-cated	123 af	Case No. 30[e]	Prior 1930	Gravity; direct diversion to earth ditch.*	Former owner: Maude E. Lyman. Point of diversion and system changes each year at owner's discretion.
D-18N/7W-9A1 106	Roger J. Leidy	Ida Creek	Irrig.	4 acres by flooding	Not meas.	Riparian	--	--	Prior 1915	Gravity; direct diversion to 0.3 mile of earth ditch.	Former owners: Porter Ray and Harry Britain.
D-18N/7W-9A2 106	Roger J. Leidy	Ida Creek	Irrig.	8 acres by flooding	Not meas.	Riparian	--	--	Prior 1915	Gravity; direct diversion to 0.3 mile of earth ditch.	Former owners: Porter Ray and Harry Britain.
D-18N/7W-30R1 106	Devey Anderson and C. W. Burgess	Paradise Creek	Irrig.	3 acres by flooding	57	(b)	--	--	1880	Gravity; wooden dam 6 feet high, 12 feet long, with 1 mile of 12-inch steel pipe and earth ditch.	Former owner: Jake Defenbach.
D-18N/7W-32E1 114	A. J. Morris	Smokey Creek	Irrig. Stock. Domestic	7 25 head (c)	27*	Adjudi-cated	50 af		1876	Gravity; rockfill dam 1 foot high, 4 feet long, with .25-mile earth ditch.	Former owner: W. A. Morris. This measurement is for only one of the two ditches of this system. An additional unknown amount was diverted by the other ditch.
D-18N/7W-32G1 114	John A. Grahl	Smokey Creek	Irrig. Domestic	3 acres by flooding (c)	9	Adjudi-cated	41 af	Page 126[e]	1896	Gravity; concrete box 3 feet high, 4 feet long, with wooden head boards and 800 feet of 6-inch steel pipe and concrete pipe, and earth ditch.	Former owners: John Chaney, E. C. Kaerth, William Poole.
D-18N/7W-35K1 (Partial Export)* 116	East Park Feed Canal U. S. Department of the Interior, Bureau of Reclamation	Big Stony Creek	Irrig.	(*)	Not meas.	Adjudi-cated	250 cfs	Art. VIII Sec. 4 Page 138[e]	1914-15	Gravity; concrete dam 20 feet high, 70 feet long, with 7.5 miles of concrete and earth canal.	Partial export to Sacramento Valley Floor Hydrographic Unit. Supplements D-17N/6W-3B1, East Park Subunit; D-20N/6W-16J1, Stony Gorge Subunit; and D-22N/5W-28Q1, Grindstone Creek Subunit. Extent of use and amount diverted included under the latter.
D-18N/7W-36E1 116	Lewis Ditch Manuel Candeias* John Wayne Morris	Stony Creek	Irrig. Stock.	45 acres by flooding 100 head	831	Adjudi-cated	290 af 37 af 505 af 50 af	Page 130[e] Page 130[e] Page 132[e] Page 133[e]	1876	Gravity; rockfill dam 8 feet high, 200 feet long, with 2.5 miles of earth ditch.	Former owners: Lewis, John Morris, Murphy, Mathews, Will Stites, Anoie Farley, Warren Davis, Al Tyce. Candeias' interest sold to H. A. Davis in November 1961.
D-19N/6W-16K1 108	A. R. Soeth	Tributary to Stony Creek	Stock.	3,000 head sheep*	Not meas.	(b)	--	--	1957	Storage; earth dam 30 feet high, 300 feet long, with 48-acre-foot reservoir.	Waters same stock as D-19R/6W-16Q1 and -27K1.

* See Remarks.
For lettered footnotes, see last page of table.

TABLE 2 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1957			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
						STONYFORD SUBUNIT (Continued)					
D-19N/6W-16M1 108	Lawrence Moore	Tributary to Johnson Creek	Stock.	(*)	Not meas.	Riparian	--	--	1949	Storage; earth dam 20 feet high, 90 feet long, with 20-acre-foot reservoir.	Waters same stock as D-18N/6W-4A1. Extent of use reported thereunder.
D-19N/6W-16Q1 108	A. R. Soeth	Tributary to Stony Creek	Stock.	(*)	Not meas.	(b)	--	--	1956	Storage; earth dam 20 feet high, 295 feet long, with 20-acre-foot reservoir.	Waters same stock as D-19N/6W-16K1. Extent of use reported thereunder.
D-19N/6W-20M1 108	Lawrence Moore	Salt Creek	Stock.	(*)	Not meas.	Riparian	--	--	1956	Storage; earth dam 16 feet high, 80 feet long, with 25-acre-foot reservoir.	Waters same stock as D-18N/6W-4A1. Extent of use reported thereunder.
D-19N/6W-27J1 108	J. B. Soeth	Big Stony Creek	Irrig. Stock.	25 acres by flooding 40 head	82	Adjudicated	156 af		1890	Gravity; wooden and rock dam 2 feet high, 12 feet long, with 1 mile of earth ditch.	Former owner: Feltner.
D-19N/6W-27K1 108	A. R. Soeth	Tributary to Stony Creek	Stock.	(*)	Not meas.	(b)	--	--	1956	Gravity; no description available.	Waters same stock as D-19N/6W-16K1. Extent of use reported thereunder.
D-19N/6W-29L1 108	Lawrence Moore	Keller Creek	Stock.	(*)	Not meas.	Riparian	--	--	1946	Storage; earth dam 25 feet high, 80 feet long, with 25-acre-foot reservoir.	Waters same stock as D-18N/6W-4A1. Extent of use reported thereunder.
D-19N/6W-22K1 108	Richard Knigh	Stony Creek	Irrig.	20 acres(*)		Adjudicated			1900	Gravity; 3 feet high and 5 feet long of concrete.	Formerly irrigated 20 acres
						STONY GORGE SUBUNIT					
D-19N/6W-2C1 100	Groteguth Bros.*	Tributary to Stony Creek	Stock.	Not known	Not meas.	Approp.*	(*)	(*)	Prior 1955	Storage; earth dam 18 feet high, 300 feet long, with 20-acre-foot reservoir.	Subsequent owner since 1961: R. W. Jamieson. W/R #20614 applied for after year of survey.
D-19N/6W-8J1 100	Warren Davis	Tributary to Stony Creek	Stock.	400 head	Not meas.	(b)	--	--	After 1950	Storage; earth dam 17 feet high, 250 feet long, with 10-acre-foot reservoir.	Subsequent owner: John Thompson.
D-20N/6W-3G1 100	R. W. Jamieson	Stony Creek	Irrig.	51 acres by sprinkler	128	Adjudicated	--	Case No. 30[d]	Prior 1925	Pump; 40-hp electric motor with 0.4 mile of 3-inch and 6-inch pipe.	Former owners: J. E. Ayer, Paul Rudolph, James and Thereas Kelly, and E. A. Wright.
D-20N/6W-7A1 100	Eugene M. Davilla	Tributary to Stony Creek	Stock.	40 head	Not meas.	(b)	--	--	1951	Storage; earth dam 20 feet high, 300 feet long, with 50-acre-foot reservoir.	Former owner: B. Miller.
D-20N/6W-9B1 100	B. W. Jamieson	Tributary to Stony Creek	Irrig. Stock.	32 acres by sprinkler* 600 head	Not meas.*	Approp.	200 af	A-14115	1950	Storage and pump: earth dam* 44 feet high, 320 feet lon with 400-acre-foot reservoir and gasoline centrifugal pump to .8 mile of 5-inch pipe to area of use.	Former owner: E. A. Wright. Supplemented by ground water. Reservoir enlarged in 1959.

* See Remarks.
For lettered footnotes, see last page of table.

TABLE 2 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1957			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					STONY GORGE SUBUNIT (Continued)						
D-20N/6W-16J1 (Partial Export)* 100	Stony Gorge Reservoir U. S. Department of the Interior, Bureau of Reclamation	Stony Creek	Irrig. Munic. Indust.	(f) 40 connections Log pond	4,593* 165 134	Approp.	--	A-2212	1928	Storage and gravity; concrete dam 142 feet high, 868 feet long, with 50,200-acre-foot reservoir.	Reported amount diverted for irrigation is evaporation of reservoir. Amount released downstream is reported under other individual diversions. Partial export to Sacramento Valley Floor Hydrographic Unit.
D-20N/6W-16L1 100	Glenco Forest Products	Tributary to Briscoe Creek	Indust.	(*)	None	Approp.	30 af	A-13871	1949	Storage; concrete dam 4 feet high, 60 feet long, with 50-acre-foot reservoir.	This diversion is supplemented by D-20N/6W-16J1. Was not used in 1959 due to water shortage. Previously served a log pond.
D-20N/6W-17J1 100	Hattie M. Asdell	Tributary to Briscoe Cree	Stock.	(*)	None	Riparian	--	--	1951	Storage; earth dam 16 feet high, 175 feet long, with 12-acre-foot reservoir.	Not used in 1959. Previously watered 200 head of stock.
D-20N/6W-31M1 100	Dr. Joseph and Anna May Watts	Tributary to Mad Creel	Stock.	500 head*	Not meas.	Riparian	--	--		Storage: earth dam 12 feet high, 175 feet long, with 12-acre-foot reservoir.	These stock water also at D-20N/7W-25J1.
D-20N/6W-33Q1 100	Groteguth Bros.	Tributary to Stony Creek	Stock.	150 head	Not meas.	Riparian	--	--		Storage: earth dam 13 feet high, 210 feet long, with 10-acre-foot reservoir.	
D-20N/7W-2E1 100	Elk Creek Ranch Company	North Fork Elk Creek	Irrig. Stock. Domestic Recr.	57 acres by flooding 200 head (c) Boating and fishing	Not meas.	Approp.	48 af	A-13790	1909	Gravity: rockfill dam 2 feet high, 20 feet long, with 1.5 miles earth ditch.	Former owners: Foreman, Spurgin.
D-20N/7W-22J1 98	Joseph E. Moore	South Fork Elk Creek	Irrig. Stock.	67 (*) 50 head cattle 150 head sheep	39	Adjudicated				Gravity: direct diversion to .75 mile of earth ditch and steel pipe.	Former owners: Saddler, Wentz, W. E. Short, C. Davis. Not used for irrigation in 1959. Previously irrigated acres by sprinkler.
D-20N/7W-25J1 100	Dr. Joseph and Anna May Watts	Tributary to Clover Creek	Stock.	(*)	Not meas.	Riparian	--	--		Storage: earth dam 16 feet high, 180 feet long, with 10-acre-foot reservoir.	Former owner: Warren Davis. Waters same stock as D-20N/6W-31M1. Extent of use reported thereunder.
D-21N/6W-22E1 94	Earle and Shirley Ellis	Tributary to Stony Creek	Stock.	20 head cattle 200 head sheep	Not meas.	Riparian	--	--	1956	Storage; earth dam 19 feet high, 150 feet long, with 15-acre-foot reservoir.	
D-21N/6W-27L1 94	Maynard and Ida Mae Johnson	Stony Creek	Irrig.	acres by flooding	Not meas.	Adjudicated	16 af	Page 127^e	1957	Pump: 3-hp electric motor with 800 feet of earth ditch.	
D-21N/6W-27M1 94	Maynard and Ida Mae Johnson	Tributary to Stony Creek	Stock.	25 head	Not meas.	Riparian	--	--	1950	Storage; earth dam 20 feet high, 225 feet long, with 20-acre-foot reservoir.	Former owners: Will Neiser, Ivan Brown.
D-21N/6W-29C1 94	James E. Drew and Clair Spurlock	Tributary to Stony Creek	Stock.	100 head	Not meas.	Riparian	--	--	1894	Storage; earth and concrete dam 23 feet high, 410 feet long, with 70-acre-foot reservoir.	Former owners: Griffith, Martin Mirande.

* See Remarks.
For lettered footnotes, see last page of table.

TABLE 2 (Continued)

DESCRIPTIONS OF SURFACE WATER DIVERSIONS

Location number and Plate 2 sheet number	Diversion name and/or owner	Source	Water use in 1957			Apparent water right			Indicated date of appropriation or first use	Description of diversion system	Remarks
			Purpose	Extent and method of use	Amount diverted in acre-feet	Type	Amount	Reference			
					THOMES CREEK SUBUNIT						
D-23N/TW-14K1 86	J. C. Murphy	Tributary to Thomes Creek	Irrig. Stock. Domestic	1 plus acres by sprinkler 75 head (c)	Not meas.	Riparian	--	--	Prior 1947	Pump; gasoline engine with short pipeline to area of use.	Former owner: Minnie Chambers.
D-23N/TW-15D1 84	Sheldon Jeffers	Tributary to Thomes Creek	Stock.	150 head	Not meas.	Riparian	--	--	1954	Storage; earth dam 15 feet high, 150 feet long, with 30-acre-foot reservoir.	Former owner: Logans, Fields, King, Weston, Maddox.

* See Remarks
a - References prefixed "A-" refer to applications of file with State Water Rights Board.
b - Insufficient information to determine type of water right.
c - Domestic use for less than 5 connections.
d - Shasta County Records.
e - District Court, Northern District of California, United States vs H. C. Angle, et al., Case No. 30.
f - For detailed description see Appendix "D".
g - Diversion to Clear Creek Subunit.
h - Irrigated in Ono Subunit.

TABLE 3

MONTHLY RECORDS OF SURFACE WATER DIVERSIONS

1959

Diversion Location	Diversion name or owner	Use	Point of measurement or estimate	Method of observation and calculation	Amount diverted, in acre-feet Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	Remarks
				BEEGUM-COTTONWOOD SUBUNIT														
30N/8W-28J1	Roy A. Graves	Irrigation and Stock 5/1/59 to 12/17/59	Approximately 300' below intake	Staff gage and depth flow rel.	0	0	0	0	111^e	105	48	16	318	67	72	46	503^e	
				CLEAR CREEK SUBUNIT														
31N-6W-17G1	Millard C. Hubbard	Irrigation and Stock	Approximately 200' below intake	Staff gage and depth flow rel.	--	NR	--	15^e	17	15	16	10	6	6	7	8	100^e	
31N-6W-16M1	Fred Story	Fire Protection - Irrigation Domestic and Stock	Approximately ½ mi. below intake	Staff gage and depth flow rel.	2^e	2	2	2	3	4	2	6	3	1	9	15	51^e	
31N-6W-20Q1	Frank C. Wright	Irrigation and Stock	Approximately 300' below intake	Staff gage and depth flow rel.	0	0	0	0	2^e	7	7	3	5^e	0	0	0	24^e	
32N-6W-9L1	Dorothy Herman	Irrigation and Domestic	Approximately ¹ mi. below intake	Staff gage and depth flow rel.	--	NR	--	10^e	11	13	14	13	11	10	10	9^e	101^e	
32N-6W-17R1	George C. Kallerup	Irrigation and Recreation	Approximately ¼ mi. below intake	Staff gage and depth flow rel.	--	NR	--	26^e	34	45	28	25	20	20	19	15	232^e	
32N-6W-20F1	Bert C. and Elsye Esmond	All Year Irrigation and Domestic	Approximately 20' below intake	Staff gage and depth flow rel.	--	NR	--	94^e	79	52	27	9	17	42	36	56	412^e	
32N-7W-2P1	John W. Davidson	Irrigation	At pump	Pump test and operation record	--	NR	--	--	1	2	2	--	--	NR	--	--	5	
32N-7W-4H1	Mrs. Herbert Hubbard	Irrigation, Domestic and Stock	Approximately 1 mi. below intake	Staff gage and depth flow rel.	--	NR	--	29^e	33	38	78	64	96	31	36	42	447^e	
33N-7W-11F1	J.A. Hildebrand	Irrigation and Mining	Approximately 80' below intake	Staff gage and depth flow rel.	--	NR	--	--	254	231	220	192	111^e	0	0	0	1008^e	
33N-7W-15J1	E. E. Erich	Irrigation and Fire Protection	Approximately ¼ mi. below intake	Staff gage and depth flow rel.	--	NR	--	129^e	134	131	148	146	162	171	178	171	1370^e	
33N-7W-21A1	A. L. Brown	Irrigation	Approximately ¹ mi. below intake	Staff gage and depth flow rel.	--	NR	--	26^e	28	29	20	12	13	11	11	15	165^e	
33N-7W-21B1	A. L. Brown	Irrigation	Approximately 1 mi. below intake	Staff gage and depth flow rel.	--	NR	--	20^e	28	29	20	12	13	11	11	15	165^e	
34N-7W-23J1	James and Rose Fife and James Keefer (son)	Irrigation and Stockwater	Approximately 1 mi. below intake	Staff gage and depth flow rel.	--	NR	--	20^e	37	27	17	11	10	10	3^e	0	135^e	
34N-7W-36M1	William Foster Jr.	Irrigation and Stock	Approximately 225' below intake	Staff gage and depth flow rel.	--	NR	--	52^e	56	57	63	56	53	62	64	55	518^e	
				DRY CREEK SUBUNIT														
29N-9W-35N1	Dr. Sharon M. Atkins	Irrigation, Domestic and Stock	Approximately 300' below intake	Staff gage and depth flow rel.	0	0	-- NR	--	11^e	11	5	6	8	9	7	6^e	63^e	
				EAST PARK SUBUNIT														
*16N-7W-8K1	F. H. Cooley	All Year Irrigation and Domestic	Approximately ½ mi. below intake, at tank	Measured discharge	0	0	1^e	0	0	1^e	0	0	1^e	0	0	1^e	4^e	Includes only evaporation. Amount released downstream is reported under other individual diversions.
16N-7W-21B1	G. H. Evans	Irrigation and Domestic	Approximately 1 mi. below intake	Staff gage and depth flow rel.	0	0	0	0	1^e	1^e	2	1	0	0	0	0	5^e	

*	See remarks
e	Monthly value estimated
--*--	Diversion estimated for period indicated
--NR--	No record for period indicated

TABLE 3 (Continued)

MONTHLY RECORDS OF SURFACE WATER DIVERSIONS

1959

Diversion Location	Diversion name or owner	Use	Point of measurement or estimate	Method of observation and calculation	Amount diverted, in acre-feet													Remarks
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
EAST PARK SUBUNIT (Continued)																		
D-17N/6W-3B1	East Park Reservoir U. S. Bureau of Reclamation	Irrigation	At Reservoir	Record of Orland Unit water users' association	92	151	570	864	1088	1131	924	399	66	12	16	9	5322	
GRINDSTONE CREEK SUBUNIT																		
21N-6W-16J1	T. M. and Irene Tankersley	Irrigation	No indication	Measured discharge	--	--	NR	--	--	2	6	3	0	0	0	0	11	
D-22N/5W-28Q1	Phobe B. Steuben	Irrigation	At pump	Pump test and power record	0	0	0	18	34	26	25	29	7	14	10	2	165	
22N-6W-31H1	Clyde E. Cushman	Irrigation	Approximately 2' below intake	Staff gage and depth flow rel.	0	0	-- NR	---	5^e	3	3	7	5	6	4^e	NR	33^e	
23N-6W-22Q1	Simpson Finnell Jr.	Irrigation and Stock	At pump	Pump test and operation record	--	-- NR	--	--	2^e	6	3	4	1	0	0	0	16^e	*These measurements include only the water used for irrigation.
ONO SUBUNIT																		
30N-6W-16M1	John J. and Catherine Sullivan	Irrigation and Stock	Approximately ½ mi. below intake	Staff gage and depth flow rel.	0	0	0	-- NR	--	45	46	58	43	0	0^e	29	221^e	
30N-6W-27M1	Robert A. and Rosemary Walden	Irrigation	Approximately 1 mi. below intake	Staff gage and depth flow rel.	0	0	0		0	211^e	119	103	91^e	0	0	0	524^e	
31N-6W-32N1	Leslie Jones	Irrigation and Stock	Approximately ½ mi. below intake	Staff gage and depth flow rel.	0	0	0	4^e	9	0	0	0	0	0	0	0	13^e	
31N-7W-23H1	Carl Burger	Irrigation, Domestic, and Stock	Approximately 1 mi. below intake	Staff gage and depth flow rel.	0	0	0	0	0	NR	32^e	36	23^e	0	0	0	91^e	
31N-7W-25L1	Eugene Powers	Irrigation	Approximately ¼ mi. below intake	Staff gage and depth flow rel.	0	0	0	0	27^e	58	59	29	14^e	0	0	0	157^e	
31N-7W-32F1	J. W. Schmitt	Irrigation, Domestic, and Stock	Approximately 1 mi. below intake	Staff gage and depth flow rel.	0	0	--	NR --	67^e	78	64	54	42	49	59	28^e	494^e	
31N-7W-36C1	Happy Valley Water Company	Irrigation	Approximately 400' below intake	Water Stage recorder and depth-flow rel.	--	NR	--	569^e	550	281	127	83	145	174	156	163	2344^e	
31N-8W-25A1	Mrs. Nancy M. Webb	Irrigation and Domestic	Approximately ¼ mi. below intake	Staff gage and depth flow rel.	0	0	0	0	NR	69^e	65	52	26^e	0	0	0	212^e	
STONYFORD SUBUNIT																		
18N-6W-2E1	William Harman	Irrigation	At pump *	Pump test and power consumption record	0	0	0	0	15	17	14	7	3	0	0	0	56	*Amount determined from P.G.&E. power records
18N-6W-10F1	E. G. Kerns	Irrigation and Stock	Approximately ¼ mi. below intake	Staff gage and depth-flow rel.	0	0	--	NR	--	29^e	9	6^e	0	0	0	0	44^e	
18N-6W-11Q1	Carl "Tom" Soeth	Irrigation and Stock	Approximately 600' below intake	Staff gage and depth-flow rel.	0	0	0	-- NR	--	60^e	64	80	48	40	34	34	360^e	
18N-6W-21M1	D. A. Gilman	Irrigation and Stock	Approximately 600' below intake	Staff gage and depth-flow rel.	0	0	15	116	219	81	158	259	42	55	82	91	1118	

* See remarks
e Monthly value estimated
--e-- Diversion estimated for period indicated
--NR-- No record for period indicated

TABLE 3 (Continued)

MONTHLY RECORDS OF SURFACE WATER DIVERSIONS

1959

Diversion Location	Diversion name or owner	Use	Point of measurement or estimate	Method of observation and calculation	Amount diverted, in acre-feet													Remarks
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
STONYFORD SUBUNIT (Continued)																		
18N-6W-22D1	Alfred Gaddini	Irrigation	Approximately 900' from intake	Staff gage and depth-flow rel.	0	0	0	-- NR	--	70^e	64^e	--	--	NR	--	--	134^e	
18N-6W-30Q1	D. A. Gilman and J. D. Moore	Irrigation and Stock	Approximately 300' below intake	Staff gage and depth-flow rel.	0	0	0	17^e	44^e	202	171	101	35^e	0	0	0	570^e	
18N-6W-31C1	Kesselring Ditch	Irrigation and Stock	Approximately 900' below intake	Staff gage and depth-flow rel.	--	--	NR	--	--	400^e	287	250	231	231	115	46	1,560	
18N-6W-31D1	Earl R. Moore	Irrigation and Stock	Approximately 1 mi. below intake	Staff gage and depth-flow rel.	0	0	0	-- NR	--	277^e	222	97	319	247	110	42	1,314^e	
18N-6W-31E1	G. W. Stocking, Harold Walkup, Leroy Walkup	Irrigation, Domestic, and Stock	Approximately 50' below intake	Staff gage and depth-flow rel.	--	--	NR	--	--	56^e	148	133	42	59	46	40	524^e	
18N-7W-30R1	Dewey Anderson and C. W. Burgess	Irrigation	Approximately 900' below intake	Staff gage and depth-flow rel.	0	0	0	0	0	NR	29^e	14	14^e	0	0	0	57^e	
18N-7W-32E1	A. J. Morris	Irrigation and Domestic	Approximately 300' below intake	Staff gage and depth-flow rel.	--	--	NR	--	--	4*	9	10	4^e	0	0	0	27	*This is estimated amount in the south ditch; an additional unknown amount was diverted by north ditch.
18N-7W-32G1	John A. Grahl	Irrigation and Domestic	Approximately 2 mi. below intake	Staff gage and depth-flow rel.	0	0	0	0	1^e	2^e	2	1	1	1	1^e	0	9^e	
18N-7W-36E1	Manuel Candeias and John Wayne Morris	Irrigation and Stock	Approximately ¼ mi. below intake	Staff gage and depth-flow rel.	--	--	NR	--	--	162^e	148	165	91	106	90	69	831^e	
19N-6W-27J1	J. B. Soeth	Irrigation and Stock	No indication	Measured discharge	--	--	NR	--	--	16^e	31	17	9	3	6	0	82^e	
STONY GORGE SUBUNIT																		
20N-6W-3G1	H. W. Jamieson	Irrigation	At pump*	Pump test and power record	0	0	8	30	19	25	23	17	0	2	4	0	128	
20N-6W-16J1	U. S. Bureau of Reclamation (Elk Creek Conduit)	Municipal	*	Meter Readings*	2	0	8	15	20	27	29	27	16	13	6	2	165*	*From Orland Unit Water Users' Assoc.
		Evaporation loss		Estimate	51	72	319	325	676	870	902	614	375	154	19	16	4,593*	* The water released downstream is reported under other individual diversions.
	U. S. Bureau of Reclamation (Glenco Forest Product Conduit)	Industrial	*	Meter Readings*	14	5	4	9	6	10	14	25	26	8	6	7	134*	* From Orland Unit Water Users' Assoc.
20N-7W-22J1	Joseph E. Moore	Irrigation and Stock	Approximately 900' below intake	Staff gage and depth-flow rel.	0	0	0	0	4^e	6^e	1	1	7	8	7	5^e	39^e	
THOMES CREEK SUBUNIT																		
24N-5W-14Q1	Thomes Creek Irrigation and Improvement Co. Ditch Watson, C. S.	Irrigation and Stock	Approximately 600' below intake	Staff gage and depth-flow rel.	--	--	NR --	--	2,746^e	1,558	158	0	0	0	0	0	4,462^e	
24N-5W-20Q1	Houghton Ditch Corning Irrigation Company	Irrigation and Stock	Approximately 600' below intake	Staff gage and depth-flow rel.	--	--	NR --	--	893	717	370	0	0	0	23^e	149	2,152^e	

*	See remarks
e	Monthly value estimated
--*--	Diversion estimated for period indicated
--NR--	No record for period indicated

TABLE 3 (Continued)

MONTHLY RECORDS OF SURFACE WATER DIVERSIONS

1959

Diversion Location	Diversion name or owner	Use	Point of measurement or estimate	Method of observation and calculation	Amount diverted, in acre-feet													Remarks
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
				THOMES CREEK SUBUNIT														
24N-5W-21L1	Chester Flournoy Stanley G. Sachs Ray Barker	Irrigation and Stock	Approximately 1/2 mi. below intake	Staff gage and depth-flow rel.	--	-- NR	--	--	608e	798	69	0	0	0	6e	86	1,567e	
24N-5W-30F1	Fred C. Davies Walter Hulse J. W. Hulse	Irrigation and Stock	Approximately 75 feet below intake	Staff gage and depth-flow rel.	--	-- NR	--	--	737e	516	46	0	0	78e	127	267	1,771e	
24N-6W-25G1	Wolcott, Mrs. Francis Charles O. Petrie Gerald & Florence Whitlock Humphrey, Fred	Irrigation and Stock	Approximately 1/4 mi. below intake	Staff gage and depth-flow rel.	--	-- NR	--	--	101e	72	17	0	0	0	53e	69	312e	
24N-6W-34R1	Joe A. Triulzi		Approximately 50 feet below intake	Staff gage and depth-flow rel.	--	-- NR	--	--	132e	403	227	16	143	415	254	247	1,837e	
24N-6W-35A1	J. F. Weston		Approximately 100 feet below intake	Staff gage and depth-flow rel.	--	-- NR	--	--	233e	287	218	8	0	136e	110	117	1,109e	

* See remarks

e Monthly value estimated

- - e - - Diversion estimated for period indicated

- - NR - - No record for period indicated

TABLE 4

APPLICATIONS TO APPROPRIATE WATER

(Filed with State Water Rights Board as of October 17, 1966)

Application Number and Status *	Date Filed	Present Owner	DWR Diversion Number	Source	Location of Point of Diversion ¼	¼	Sec.	Tp.	R.	B. & M.	Amount	Period of Diversion	Purpose
784-L	091417	Happy Valley Water Company		Misselbeck Branch	NE	NE	31	31N	7W	M	4800 af	12/1 - 4/1	Irrigation, Domestic
2212-L	021721	U. S. Bureau of Reclamation		Stony Creek	NE	SE	16	20N	6W	M	50,200 af	11/1 - 5/1	Irrigation
4592-L	051825	U. S. Shasta-Trinity National Forest		Unnamed Spring	SW	SW	11	29N	10W	M	3,900 gpd	1/1 - 12/31	Domestic
5211-L	091626	Lora R. Erich		Unnamed Spring	SE	SW	22	33N	7W	M	100 gpd	6/1 - 4/1	Domestic
7284-L	060832	H. H. Hammer		South Fork Cottonwood Creek	SW	NW	12	26N	8W	M	3 cfs	1/1 - 12/31	Power
9590-L	052239	L. E. Spickert		Unnamed Spring	NE	SE	32	33N	7W	M	580 gpd	1/1 - 12/31	Domestic
10401-L	031242	U. S. Mendocino National Forest		Unnamed Spring	SW	SE	15	23N	10W	M	50 gpd	5/1 - 11/30	Doemestic
10402-L	031242	U. S. Mendocino National Forest		Mill Creek	SW	NW	29	24N	7W	M	100 gpd	5/1 - 11/30	Domestic
10812-L	051044	U. S. Mendocino National Forest		Mill Creek	SW	NW	29	24N	7W	M	3,900 gpd	5/1 - 11/30	Domestic
11089-L	062845	U. S. Shasta-Trinity National Forest		Unnamed Spring	SE	NW	31	28N	9W	M	400 gpd	5/1 - 10/31	Domestic
11133-L	082245	Knob Peak Lumber Company		Middle Fork Cottonwood Creek	SW	SW	17	29N	9W	M	3,000 gpd	1/1 - 12/31	Domestic, Uses too numerous to list or not included in code
11715-L	020347	Claude E. Hitchcock, et al.		Andy Oswald Mine Tunnel	SW	SE	10	29N	10W	M	4,000 gpd	1/1 - 12/31	Domestic
13260-L	072649	George Owen		Unnamed Stream	NE	NW	8	30N	7W	M	0.38 cfs	3/1 - 10/15	Irrigation
13350-L	091349	Burnie & Dorothy L. Proctor		Unnamed Spring	SE	SW	27	30N	10W	M	**3,700 gpd	5/1 - 11/30	Irrigation, Domestic, Stockwatering
13350-L	091349	Burnie & Dorothy L. Proctor		Unnamed Spring	SW	SW	27	30N	10W	M	**3,700 gpd	5/1 - 11/30	Irrigation, Domestic, Stockwatering
13459-L	111459	Olenco Forest Products, Inc.		Unnamed Stream	NE	SW	16	20N	6W	M	30 af	12/1 - 4/1	Industrial
13790-P	061450	Elk Horn Ranch- A Co-Partnership		North Fork Elk Creek	SW	NW	2	20N	7W	M	48 af	12/1 - 4/1	Irrigation, Domestic, Recreational, Stockwatering
13823-L	062850	U. S. Shasta-Trinity National Forests		Unnamed Spring	NE	NW	31	27N	8W	M	500 gpd	5/1 - 10/31	Domestic
13871-L	072850	Glenco Forest Products, Inc.		Unnamed Stream	NE	SW	16	20N	6W	M	30 af	12/1 - 4/1	Industrial
13972-L	092960	California Division of Highways		Middle Fork Cottonwood Creek	SW	SW	16	29N	9W	M	5,200 gpd	1/1 - 12/31	Domestic
14115-L	122950	Hugh W. Jr. & Phyllis M. Jamieson		Unnamed Creek	NE	NW	9	20N	6W	M	200 af	11/1 - 4/1	Irrigation, Recreational, Stockwatering
15424-P	072353	U. S. Bureau of Reclamation		Clear Creek	NW	SW	27	32N	6W	M	1,700 cfs	1/1 - 12/31	Power
15952-L	072354	George Owen		Unnamed Stream	SE	NW	8	30N	7W	M	0.1 cfs	3/1 - 10/15	Irrigation, Stockwatering
16093-L	101554	U. S. Shasta-Trinity National Forests		Unnamed Spring	SW	SW	23	29N	10W	M	1,300 gpd	1/1 - 12/31	Domestic
16977-P	032956	R. O. Davis DBA Whiskey Creek Lodge		Whiskey Creek	NW	SE	29	33N	6W	M	0.5 cfs	4/1 - 10/1+	Irrigation, Domestic
17264-L	090556	California Division of Forestry		Crystal Creek	NW	SE	17	32N	7W	M	0.062 cfs	5/1 - 10/31+	Irrigation, Domestic

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TABLE 4 (Continued)

APPLICATIONS TO APPROPRIATE WATER

(Filed with State Water Rights Board as of October 17, 1966)

Application Number and Status *	Date Filed	Present Owner	DWR Diversion Number	Source	Location of Point of Diversion						Amount	Period of Diversion	Purpose
					1/4	1/4	Sec.	Tp.	R.	B. & M.			
17376-P	112856	U. S. Bureau of Reclamation		Clear Creek	NW	SW	27	32N	6W	M	3,600 cfs 250,000 af	1/1 - 12/31	Irrigation, Domestic Recreational
17706-L	070857	Dell R. & Violet M. Plumb		Unnamed Gulch	NW	NW	14	33R	7W	M	**1,000 gpd	1/1 - 12/31	Domestic, Stockwatering
17706-L	070857	Dell R. & Violet M. Plumb		Unnamed Gulch	SE	SW	11	33N	7W	M	**1,000 gpd	1/1 - 12/31	Domestic, Stockwatering
17872-L	110557	U. S. Mendocino National Forest		Upper Letts Creek	SE	SW	24	17R	8W	M	319 af	4/1 - 10/30	Domestic, Recreational, Fish Culture
17872-L	110557	U. S. Mendocino National Forest		Unnamed Spring	SW	SW	24	17N	8W	M	0.33 cfs	4/1 - 10/30	Domestic, Recreational, Fish Culture
17927-P	122657	Acey T. Stephens		Clear Creek	SW	SE	2	33N	7W	M	0.5 cfs	4/1 - 11/1	Irrigation
17936-L	010958	James A. & Thelma A. Buchanan		Unnamed Creek	NW	NW	14	33N	7W	M	1,076 gpd	1/1 - 12/31	Domestic
17943-L	011558	Ono Elementary School District		Unnamed Spring	NW	SE	18	29N	9W	M	500 gpd	1/1 - 12/31	Domestic
18236-L	072458	C. E. & Dorothy Polley		Dry Creek	NW	NE	1	28N	9W	M	16 af	11/1 - 4/30	Irrigation, Domestic, Stockwatering
18468-P	011259	Elmer Silver Jr.		Unnamed Stream	NW	NE	18	20R	6W	M	105 af	11/1 - 3/15	Irrigation, Recreational
18826-L	062459	C. E. Polley		Dry Creek	NW	NE	1	28N	9W	M	3 af	11/1 - 2/29	Stockwatering, Recreational
18908-L	081059	A. T., Kenneth W. & Wesley C. Smith		Unnamed Spring	NW	SW	1	18N	6W	M	6 af	12/1 - 3/14	Stockwatering
18965-P	090359	Hugh W. & Phyllis M. Jamieson		Unnamed Stream	NE	NW	9	20R	6W	M	200 af	12/1 - 3/15	Irrigation
19056-L	110259	U. S. Shasta-Trinity National Forests		Bluford Glade Spring	SE	NE	19	30N	9W	M	600 gpd	5/1 - 10/31	Stockwatering
19075-P	111059	Do-Be Melcoo Peltier		Unnamed Spring	NW	NW	33	32N	6W	M	0.04 cfs	1/1 - 12/31	Domestic
19103-L	112459	Howard B. & Viva L. Negley et al.		Unnamed Spring	SW	SW	35	33R	7W	M	900 gpd	1/1 - 12/31	Domestic
19104-L	112459	Roy R. & Freda Arnold et al.		Clear Creek	NE	SE	34	33N	7W	M	4,800 gpd	4/1 - 11/1	Irrigation
19297-L	030960	Aileen Hamilton		Unnamed Stream	SW	NW	5	21N	6W	M	11 af	12/1 - 3/15	Stockwatering, Recreational
19298-L	030960	Aileen Hamilton		Unnamed Stream	SW	SW	5	21N	6W	M	9.3 af	12/1 - 3/15	Stockwatering, Recreational
19391-P	042660	Victor Freeland & H. Rodger		North Fork Cottonwood Creek	NE	NE	28	30N	6W	M	0.67 cfs	5/1 - 10/ 1	Irrigation, Stockwatering
19437-P	051260	C, M, J. M. & J. D. Spurlock		Unnamed Stream	NE	SE	20	21R	6W	M	15 af	12/1 - 3/15	Stockwatering
19534-L	071160	A. T., Kenneth W. & Wesley C. Smith		Unnamed Stream	SE	SE	36	19N	6W	M	7 af	12/15- 3/15	Fish Culture
19733-P	090860	Albert R. Soeth		Unnamed Stream	NW	SE	16	19N	6W	M	45.2 af	12/1 - 3/15	Stockwatering, Recreational, Fish Culture
19733-P	090860	Albert R. Soeth		Unnamed Stream	SW	SE	16	19N	6W	M	28 af	12/1 - 3/15	Stockwatering, Recreational, Fish Culture
19733-P	090860	Albert R. Soeth		Unnamed Stream	NE	SW	27	19N	6W	M	16.5 af	12/1 - 3/15	Stockwatering, Recreational, Fish Culture
19838-P	110260	Paul D. & Joan A. Rodgers		Unnamed Stream	SW	NE	25	17N	6W	M	10 af	12/1 - 3/15	Stockwatering
19849-P	112160	U. S. Bureau of Land Management		Red Bank Creek	SW	SW	28	26N	7W	M	0.5 af	11/1 - 4/1	Stockwatering
19899-P	122960	Lawrence Moore		Unnamed Stream	NE	SW	29	19N	6W	M	21.9 af	12/1 - 3/15	Stockwatering, Recreational

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TABLE 4 (Continued)

APPLICATIONS TO APPROPRIATE WATER

(Filed with State Water Rights Board as of October 17, 1966)

Application Number and Status *	Date Filed	Present Owner	DWR Diversion Number	Source	Location of Point of Diversion						Amount	Period of Diversion	Purpose
					1/4	1/4	Sec.	Tp.	R.	B. & M.			
19910-P	010961	Clair & Marjorie Spurlock		Unnamed Stream	SW	NW	19	21N	6W	M	3 af	12/1 - 3/15	Stockwatering, Recreational, Fish Culture
19911-P	010961	C, M, J. M. & J. D. Spurlock		Unnamed Stream	NE	NW	29	21N	6W	M	**76 af	12/1 - 3/15	Irrigation, Recreational, Stockwatering, Fish Culture
19911-P	010961	C, M, J. M. & J. D. Spurlock		Unnamed Stream	SW	SW	29	21N	6W	M	**76 af	12/1 - 3/15	Irrigation, Recreational, Stockwatering, Fish Culture
19911-P	010961	C, M, J. M. & J. D. Spurlock		Unnamed Stream	SE	NE	28	21N	6W	M	17 af	12/1 - 3/15	Irrigation, Recreational, Stockwatering, Fish Culture
19912-P	010961	James E. & Nora Drew		Unnamed Stream	SE	SE	19	21N	6W	M	3 af	12/1 - 3/15	Stockwatering, Recreational, Fish Culture
19915-P	011161	Roy & Cecillia A. Barni		Unnamed Stream	SW	NW	33	30N	6W	M	5 af	11/1 - 5/31	Irrigation, Recreational, Stockwatering
19916-P	011161	Orley L. & Bernice L. Niesen		Unnamed Stream	NW	NE	30	21N	6W	M	15 af	12/1 - 3/15	Stockwatering
19940-P	013061	Lawrence Moore		Unnamed Stream	NW	SE	9	18N	6W	M	4.4 af	12/1 - 3/15	Stockwatering, Recreational
19941-P	013061	Lawrence Moore		Unnamed Stream	NW	SW	20	19N	6W	M	13.1 af	12/1 - 3/15	Stockwatering, Recreational
19942-P	013061	Lawrence Moore		Unnamed Stream	NE	NE	4	18N	6W	M	18.9 af	12/1 - 3/15	Stockwatering, Recreational
19959-P	020661	Ralph L. & Byra J. Wolcott		Unnamed Stream	NE	SW	7	23N	6W	M	4.2 af	11/1 - 3/1	Stockwatering, Recreational
20001-P	022161	Lewis J. Westlake et al.		Brandy Creek	NW	SE	30	32N	6W	M	0.5 cfs 15 af	1/1 - 12/31 6/1 - 7/1	Domestic, Recreational
20052-P	032761	Shirley R. & Earle Ellis		Smith Creek	SW	NW	22	21N	6W	M	15 af	12/1 - 3/15	Stockwatering
20139-P	052261	Alleyne N. Reed & Est of Walter Reed		2 Unnamed Streams	SE	SW	1	19N	7W	M	**0.88 cfs	12/1 - 3/15	Irrigation, Recreational, Stockwatering, Fish Culture
20139-P	052261	Alleyne H. Reed & Est of Walter Reed		Unnamed Stream	SE	SE	2	19N	7W	M	**0.88 cfs 8 af	12/1 - 3/15	Irrigation, Recreational, Stockwatering, Fish Culture
20149-P	052561	Lawrence Moore		Unnamed Stream	SW	NE	30	19N	6W	M	3 af	12/1 - 3/15	Stockwatering
20150-P	052561	Lawrence Moore		Unnamed Stream	NE	NE	31	19N	6W	M	1.4 af	12/1 - 3/15	Stockwatering
20251-P	060661	Willis E. & LA Vista Wilson		Unnamed Stream	SW	SW	23	17N	6W	M	65 af	12/15- 3/15	Irrigation, Stockwatering
20251-P	060661	Willis E. & LA Vista Wilson		Unnamed Stream	NE	NE	27	17N	6W	M	3 af	12/15- 3/15	Irrigation, Stockwatering
20251-P	060661	Willis E. & LA Vista Wilson		Unnamed Stream	NW	NE	27	17N	6W	M	7 af	12/15- 3/15	Irrigation, Stockwatering
20285-P	070361	Albert R. Soeth		Unnamed Stream	NE	SE	28	19N	6W	M	6.7 af	12/1 - 3/15	Stockwatering, Recreational, Fish Culture
20295-P	071061	Lawrence Moore		Unnamed Stream	SE	SW	33	19N	6W	M	12 af	12/1 - 3/15	Stockwatering, Recreational, Fire Protection
20296-P	071061	Lawrence Moore		Unnamed Stream	SW	NW	16	19N	6W	M	8.5 af	12/1 - 3/15	Stockwatering, Recreational, Fire Protection
20298-P	071261	Elaine G. Kerns		Unnamed Stream	SE	SE	11	18N	6W	M	9.3 af	12/1 - 3/15	Stockwatering, Fire Protection
20304-P	071761	Eugene & Joan E. Davilla		Unnamed Stream	NE	NE	7	20N	6W	M	37.8 af	12/1 - 3/15	Stockwatering
20329-P	072661	Estate of Isabel Niesen		Unnamed Stream	SW	SW	36	21N	7W	M	1.2 af	12/1 - 3/15	Stockwatering
20337-P	073161	Kenneth Niesen		Unnamed Stream	SE	SW	6	20N	6W	M	2.4 af	12/1 - 3/15	Stockwatering

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20394-P	091261	James C. & Helen A. Bassham		Johns Gulch	SW	NW	23	33N	7W	M	0.1 cfs	1/1 - 12/31	Irrigation, Domestic
20494-P	111561	Velma M. Gillaspy		Unnamed Stream	SE	SW	21	22N	6W	M	3 af	12/1 - 3/15	Stockwatering, Fire Protection
20495-P	111561	C. D. Gillaspy		Unnamed Stream	NW	SW	30	21N	6W	M	10 af	12/1 - 3/15	Stockwatering, Fire Protection
20500-P	111761	Lawrence Moore		Unnamed Stream	SW	SW	17	19N	6W	M	22.3 af	12/1 - 3/15	Stockwatering, Recreational, Fish Culture
20503-P	112161	John A. Jr. & Pauli S. Thompson		Unnamed Draw	SE	SE	20	20N	6W	M	4.6 af	12/1 - 3/15	Stockwatering, Wildlife Propagation
20503-P	112161	John A. Jr. & Pauli S. Thompson		Unnamed Draw	SE	NE	32	20N	6W	M	3 af	12/1 - 3/15	Stockwatering, Wildlife Propagation
20504-P	112161	John A. Jr. & Pauli S. Thompson		2 Unnamed Draws	SE	SE	5	19N	6W	M	17 af	12/1 - 3/15	Recreational, Stockwatering, Fish Culture, Wildlife Propagation
20504-P	112161	John A. Jr. & Pauli S. Thompson		2 Unnamed Draws	NE	SE	8	19N	6W	N	12 af	12/1 - 3/15	Recreational, Stockwatering, Fish Culture, Wildlife Propagation
20506-P	112261	Lawrence B. & Claire L. Groteguth		Unnamed Creek	SE	SW	21	20N	6W	M	1 af	12/1 - 3/15	Stockwatering, Recreational, Fish Culture
20506-P	112261	Lawrence B. & Claire L. Groteguth		Unnamed Creek	NW	SW	28	20N	6W	N	5.1 af	12/1 - 3/15	Stockwatering, Recreational, Fish Culture
20512-P	112961	Lawrence B. & Claire L. Groteguth		Unnamed Creek	NW	NW	33	20N	6W	M	9 af	12/1 - 3/15	Stockwatering, Recreational, Fish Culture
20512-P	112961	Lawrence B. & Claire L. Groteguth		Unnamed Creek	SE	NW	33	20N	6W	M	1.3 af	12/1 - 3/15	Stockwatering, Recreational, Fish Culture
20513-P	120161	Leon Whitney		Unnamed Stream	NE	NW	8	21N	6W	M	107 af	12/1 - 3/15	Irrigation, Stockwatering
20537-P	122661	Elaine G. Kerns		Water Canyon	NE	SE	13	18N	6W	M	5.3 af	12/1 - 3/15	Stockwatering, Fire Protection
20576-P	012962	U. S. Mendocino National Forest		Manzanita Spring	SW	NW	3	21N	7W	M	450 gpd	5/1 - 11/1	Stockwatering
20577-P	012962	U. S. Mendocino National Forest		Cottonwood Spring	SE	SE	25	22N	8W	M	450 gpd	4/1 - 11/30	Domestic, Stockwatering
20578-P	012962	U. S. Mendocino National Forest		Doe Peak Spring	SE	NW	4	21N	7W	M	450 gpd	5/15- 11/1	Stockwatering
20579-P	012962	U. S. Mendocino National Forest		Bear Wallow Spring	SE	SE	3	21N	7W	M	650 gpd	4/1 - 10/30	Domestic, Stockwatering
20614-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	SE	NW	11	19N	6W	M	4 af	12/1 - 3/15	Stockwatering
20614-P	021562	N. W. & P. M. Jamieson		Unnamed Stream	SE	SW	2	19N	6W	M	8 af	12/1 - 3/15	Stockwatering
20614-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	NW	NW	2	19N	6W	M	8 af	12/1 - 3/15	Stockwatering
20614-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	SE	SW	35	20N	6W	M	8 af	12/1 - 3/15	Stockwatering
20614-P	021562	N. W. & P. M. Jamieson		Unnamed Stream	SE	SE	22	20N	6W	M	**6 af	12/1 - 3/15	Stockwatering
20614-P	021562	S. W. & P. M. Jamieson		Unnamed Stream	SW	SW	23	20N	6W	N	**6 af	12/1 - 3/15	Stockwatering

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TABLE 4 (Continued)

APPLICATIONS TO APPROPRIATE WATER

(Filed with State Water Rights Board as of October 17, 1966)

Application Number and Status *	Date Filed	Present Owner	DWR Diversion Number	Source	Location of Point of Diversion						Amount	Period of Diversion	Purpose
					1/4	1/4	Sec.	Tp.	R.	B. & M.			
20615-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	SW	NE	6	20N	6W	M	5 af	12/1 - 3/15	Stockwatering
20615-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	NE	SE	4	20N	6W	M	6 af	12/1 - 3/15	Stockwatering
20615-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	NW	SE	5	20N	6W	M	8 af	12/1 - 3/15	Stockwatering
20615-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	NE	NE	4	20N	6W	M	8 af	12/1 - 3/15	Stockwatering
20615-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	SE	NE	33	21N	6W	M	6 af	12/1 - 3/15	Stockwatering
20615-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	NW	SE	31	21N	6W	M	8 af	12/1 - 3/15	Stockwatering
20615-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	NE	NW	2	20N	6W	M	4 af	12/1 - 3/15	Stockwatering
20615-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	SE	SE	3	20N	6W	M	3 af	12/1 - 3/15	Stockwatering
20615-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	NE	NW	10	20N	6W	M	8 af	12/1 - 3/15	Stockwatering
20615-P	021562	H. W. & P. M. Jamieson		Unnamed Stream	NW	SE	28	21N	6W	M	8 af	12/1 - 3/15	Stockwatering
20631-P	022662	Jack C. Gutte		Deadwood Gulch	SW	SE	30	33N	6W	M	0.08 cfs 5 af	4/1 - 11/1 + 11/1 - 15/1	Irrigation, Domestic, Stockwatering, Fire Protection
20646-P	030762	Alvin C. & Ritta Millsaps		Unnamed Creek	NW	NE	21	22N	6W	M	2.6 af	12/1 - 3/15	Stockwatering
20646-P	030762	Alvin C. & Ritta Millsaps		Unnamed Creek	NW	SE	33	22N	6W	M	4.25 af	12/1 - 3/15	Stockwatering
20646-P	030762	Alvin C. & Ritta Millsaps		Unnamed Creek	NW	SW	34	22N	6W	M	2.2 af	12/1 - 3/15	Stockwatering
20646-P	030762	Alvin C. & Ritta Millsaps		Unnamed Creek	NW	NW	3	21N	6W	M	2.7 af	12/1 - 3/15	Stockwatering
20646-P	030762	Alvin C. & Ritta Millsaps		Unnamed Creek	SW	NE	3	21N	6W	M	3.3 af	12/1 - 3/15	Stockwatering
20646-P	030762	Alvin C. & Ritta Millsaps		Unnamed Creek	NE	NE	10	21N	6W	M	4.6 af	12/1 - 3/15	Stockwatering
20647-P	030762	Bernie L. & Lou Ann Millsaps		Unnamed Creek	SW	NE	8	21N	6W	M	3 af	12/1 - 3/15	Stockwatering
20647-P	030762	Bernie L. & Lou Ann Millsaps		Unnamed Creek	NE	SW	8	21N	6W	M	3.3 af	12/1 - 3/15	Stockwatering
20721-P	041262	Stephen S. & Kate M. Schuchart		Digger Creek	SE	SW	28	25N	6W	M	15 af	11/1 - 3/31	Stockwatering
20724-P	041762	Hattie M. Asdell		Unnamed Creek	NE	SE	17	20N	6W	M	10.8 af	12/1 - 3/15	Stockwatering
20724-P	041762	Hattie M. Asdell		Unnamed Creek	NW	SW	19	20N	6W	M	5.2 af	12/1 - 3/15	Stockwatering
20803-P	060462	Clyde & Nellie M. Cushman		Unnamed Creek	SE	NW	32	22N	6W	M	10.6 af	12/1 - 3/15	Stockwatering, Fire Protection
20822-P	061962	W. H. & H. E. Burch		Unnamed Spring	NE	SE	18	29N	9W	M	1,200 gpd	1/1 - 12/31	Domestic
20837-P	070262	Arnold H. Zehnle, et al.		Unnamed Stream	NW	SE	30	32N	6W	M	15 af	11/1 - 6/1	Domestic
20948-P	091862	Harold A. Davis		Unnamed Spring	NW	SE	23	17N	6W	M	1 cfs	7/1 - 11/1	Irrigation
20967-P	100362	U. S. Mendocino National Forest		Unnamed Stream	SW	NE	24	17N	8W	M	190 af	12/1 - 3/15	Recreational, Fish Culture
21007-P	110762	Elaine G. Kerns		Unnamed Stream	SE	NW	24	18N	6W	M	1.8 af	12/1 - 2/28	Stockwatering
21057-P	113062	John A. & Pauli S. Thompson		Unnamed Stream	NE	NW	9	19N	6W	M	12 af	12/1 - 3/15	Recreational, Stockwatering, Uses too numerous to list or not included in code
21129-P	012163	Sam P. & Doris M. Vienna		Unnamed Stream	NE	NW	32	31N	6W	M	15 af	10/15- 6/15	Irrigation
21200-P	032263	Donald A. Garlin		Unnamed Creek	SE	NE	7	18N	6W	M	18 af	12/1 - 3/15	Stockwatering
21201-P	032263	Donald A. Garlin		Salt Creek	NE	NE	1	18N	7W	M	12 af	12/1 - 3/15	Stockwatering
21223-P	040863	Anna C. Swaia		South Fork Cottonwood Creek	NE	SE	30	27N	6W	M	2,400 gpd	1/1 - 12/31	Stockwatering

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TABLE 4 (Continued)

APPLICATIONS TO APPROPRIATE WATER

(Filed with State Water Rights Board as of October 17, 1966)

Application Number and Status *	Date Filed	Present Owner	DWR Diversion Number	Source	Location of Point of Diversion						Amount	Period of Diversion	Purpose
					¼	¼	Sec.	Tp	R.	B.&M			
21226-P	040863	U. S. Shasta-Trinity National Forests		Pattymocus Spring	NW	NE	16	28N	9W	M	4,500 gpd	4/1 - 10/10	Domestic, Uses too numerous to list or not included in code
21231-P	040963	Westover Company		Unnamed Stream	NE	SW	13	28N	7W	M	8 af	9/1 - 4/15	Stockwatering
21231-P	040963	Westover Company		Unnamed Stream	SE	SW	14	28N	7W	M	9 af	9/1 - 4/15	Stockwatering
21231-P	040963	Westover Company		Unnamed Stream	NW	SW	15	28N	7W	M	4 af	9/1 - 4/15	Stockwatering
21231-P	040963	Westover Company		Unnamed Stream	NE	SW	22	28N	7W	M	12.6 af	9/1 - 4/15	Stockwatering
21231-P	040963	Westover Company		Meadow Gulch	SW	SW	17	28N	7W	M	15 af	9/1 - 4/15	Stockwatering
21231-P	040963	Westover Company		Meadow Gulch	NW	NE	19	28N	7W	M	19 af	9/1 - 4/15	Stockwatering
21231-P	040963	Westover Company		Plumb Gulch	SE	NE	30	28N	7W	M	5 af	9/1 - 4/15	Stockwatering
21285-P	051763	John A. & Grace L. Thompson		Unnamed Stream	NE	NW	16	21N	6W	M	43 af	12/1 - 3/15	Domestic, Recreational, Stockwatering
21368-P	062763	U. S. Shasta-Trinity National Forests		Unnamed Stream	NW	SW	32	36N	6W	M	2,000 gpd	5/1 - 11/30	Domestic, Fire Protection
21380-P	070363	Westover Company		Dry Creek	NE	NE	9	28N	7W	M	3,500 gpd	11/1 - 7/31	Stockwatering
21381-P	070363	Westover Company		South Fork China Gulch	NW	NE	2	28N	7W	M	6 af	9/1 - 4/15	Stockwatering
21381-P	070363	Westover Company		North Fork China Gulch	NE	SE	36	29N	7W	M	1 af	9/1 - 4/15	Stockwatering
21382-P	070363	Westover Company		Unnamed Stream	NW	NW	13	28N	7W	M	12 af	1/1 - 4/15	Stockwatering
21382-P	070363	Westover Company		Unnamed Stream	SW	NE	17	28N	7W	M	2.6 af	1/1 - 4/15	Stockwatering
21382-P	070363	Westover Company		Unnamed Stream	NE	NW	18	28N	7W	M	3 af	1/1 - 4/15	Stockwatering
21382-P	070363	Westover Company		Unnamed Stream	SE	NE	10	28N	7W	M	2 af	1/1 - 4/15	Stockwatering
21382-P	070363	Westover Company		Unnamed Stream	SW	NW	12	28N	7W	M	8 af	1/1 - 4/15	Stockwatering
21382-P	070363	Westover Company		Unnamed Stream	NE	NE	7	28N	6W	M	6 af	1/1 - 4/15	Stockwatering
21382-P	070363	Westover Company		Unnamed Stream	SW	SE	10	28N	7W	M	5 af	1/1 - 4/15	Stockwatering
21382-P	070363	Westover Company		Unnamed Stream	SW	SW	11	28N	7W	M	9 af	1/1 - 4/15	Stockwatering
21397-P	071863	Clinton E. Roemer		Unnamed Stream	NW	NW	8	28N	6W	M	15 af	10/1 - 5/1	Stockwatering, Recreational, Fire Protection
21408-P	072963	Raymond & Mary Alice Kapusta		Unnamed Spring	SE	SE	34	33N	7W	M	4,000 gpd	1/1 - 12/31	Domestic
21649-P	022464	Laurence J. & Ione Owne		Unnamed Stream	NE	NE	34	27N	4W	M	0.067 cfs 8 af	4/15- 10/15 10/1 - 5/1	Irrigation, Stockwatering, Fish Culture
21676-P	030664	Lee & Jessie C. Funderburg		Boulder Creek	SE	SE	12	32N	7W	M	0.5 cfs	1/1 - 12/31	Domestic
21720-P	033064	Harold & Bessie E. Davies		Unnamed Stream	NW	SW	20	18N	6W	M	6 af	11/1 - 3/15	Stockwatering, Recreational, Fish Culture
21815-P	061564	Ralph S. Jr. & Thelma M. Roy		Beegum Creek	SE	SW	23	29N	9W	M	0.8 cfs	5/1 - 10/1	Irrigation
21960-P	111764	Clyde E. & Nellie M. Cushman		Unnamed Stream	SE	SE	31	22N	6W	M	30 af	12/1 - 3/15	Irrigation, Domestic, Recreational, Stockwatering
21973-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	NW	SE	16	27N	7W	M	7.9 af	10/15- 5/1	Stockwatering
21973-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	NW	SW	22	27N	7W	M	1 af	10/15- 5/1	Stockwatering
21973-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	NE	SE	15	27N	7W	M	12.9 af	10/15- 5/1	Stockwatering

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TABLE 4 (Continued)

APPLICATIONS TO APPROPRIATE WATER

(Filed with State Water Rights Board as of October 17, 1966)

Application Number and Status *	Date Filed	Present Owner	DWR Diversion Number	Source	Location of Point of Diversion						Amount	Period of Diversion	Purpose
					1/4	1/4	Sec.	Tp.	R.	B.&M			
21973-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	SW	SW	21	27N	7W	M	1.7 af	10/15 - 5/1	Stockwatering
21974-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	SW	NE	27	27N	7W	M	2.2 af	10/15 - 5/1	Stockwatering
21974-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	SW	NW	23	27N	7W	M	6.8 af	10/15 - 5/1	Stockwatering
21974-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	NE	SW	13	27N	7W	M	4 af	10/15 - 5/1	Stockwatering
21974-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	NW	SW	27	27N	7W	M	1.1 af	10/15 - 5/1	Stockwatering
21975-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	SW	NW	18	27N	6W	M	16.6 af	10/15 - 5/15	Stockwatering
21975-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	NE	NE	17	27N	6W	M	2.7 af	10/15 - 5/15	Stockwatering
21975-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	NW	NW	24	27N	7W	M	2.4 af	10/15 - 5/15	Stockwatering
21976-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	SW	NW	25	27N	7W	M	23 af	10/15 - 5/1	Stockwatering
21976-P	112564	Cliff Cattle Company A. Corporation		Unnamed Stream	NW	NE	25	27N	7W	M	2 af	10/15 - 5/1	Stockwatering
22043-A	021165	Eugene F. Asher		Unnamed Stream	SW	NE	31	31N	6W	M	40 af	11/1 - 3/15	Irrigation
22047-P	021965	Richard & Lora Lee Knight		Unnamed Stream	SW	NE	15	19N	6W	M	15 af	12/1 - 3/15	Stockwatering, Recreational, Fish Culture
22112-P	042865	Raymond Cox		Unnamed Stream	NW	SE	36	24N	7W	M	49 af	11/1 - 5/31	Irrigation, Stockwatering
22113-P	042865	Raymond Cox		2 Unnamed Streams	NW	NE	35	24N	7W	M	15.5 af	11/1 - 5/31	Stockwatering
22113-P	042865	Raymond Cox		Unnamed Stream	NW	NE	1	23N	7W	M	2 af	11/1 - 5/31	Stockwatering
22113-P	042865	Raymond Cox		Unnamed Stream	SW	SE	1	23N	7W	M	4 af	11/1 - 5/31	Stockwatering
22169-P	052165	Enon Maddux		Unnamed Stream	NW	SE	14	18N	6W	M	7 af	12/1 - 3/15	Stockwatering, Recreational
22169-P	052165	Enon Maddux		Unnamed Stream	NW	SW	23	18N	6W	M	7 af	12/1 - 3/15	Stockwatering, Recreational
22170-P	052165	Enon Maddux		Unnamed Stream	NW	SE	26	18N	6W	M	48 af	12/1 - 3/15	Irrigation, Recreational, Stockwatering, Fish Culture
22171-P	052165	Enon Maddux		Unnamed Stream	NE	SE	23	18N	6W	M	44 af	12/1 - 3/15	Stockwatering, Recreational
22174-A	052565	Elk Creek Soil Conservation District		Briscoe Creek	SW	NE	29	20N	6W	M	**25,000	12/1 - 3/15^A	Irrigation, Domestic, Uses to numerous to list or not included
22174-A	052565	Elk Creek Soil Conservation District		South Fork Elk Creek	NW	SW	29	20N	6W	M	**25,000	12/1 - 3/15^A	Irrigation, Domestic, Uses to numerous to list or not included
22230-A	072065	State Water Rights Board		North Fork Stony Creek			3	22N	6W	M	55,000	S/A 1/1 - 12/31	Irrigation, Domestic, Uses to numerous to list or not included
22231-A	072065	State Water Rights Board		Stony Creek		SW	14	21N	6W	M	750,000	S/A 1/1 - 12/31	Irrigation, Domestic, Uses to numerous to list or not included

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TABLE 4 (Continued)

APPLICATIONS TO APPROPRIATE WATER

(Filed with State Water Rights Board as of October 17, 1966)

Application Number and Status *	Date Filed	Present Owner	DWR Diversion Number	Source	Location of Point of Diversion						Amount	Period of Diversion	Purpose
					1/4	1/4	Sec	Tp.	R.	B.&M.			
22253-P	080565	Donal A. & Nan A. Carlio		Unnamed Stream	SW	NE	6	18N	6W	M	17 af	12/1 - 3/15	Stockwatering, Recreational
22320	102265	Elk Horn Ranch A Co-Partnership		Unnamed Stream	SW	NE	1	20N	7W	M	72 af	12/1 - 4/1	Irrigation, Recreational, Stockwatering
22338-P	111765	George F. & Juanita G. Pride		Unnamed Stream	SE	SE	5	21N	6W	M	5 af	12/1 - 3/15	Stockwatering, Recreational
22393-A	021766	Dynamic Management Company		Unnamed Stream	NE	SW	21	23N	6W	M	3,200 af	11/1 - 4/1	Irrigation, Domestic, Uses too numerous to list or not included in code
22443-A	040566	May Soeth		Unnamed Stream	NE	SE	23	19N	6W	M	13.5 af	12/1 - 3/15	Stockwatering, Recreational
22443-A	040566	May Soeth		Unnamed Stream	SW	NE	14	19N	6W	M	1.5 af	12/1 - 3/15	Stockwatering, Recreational
22467-A	051666	John A. Jr. & Pauli Thompson		Unnamed Stream	SW	SE	29	20N	6W	M	14.5 af	12/1 - 3/15^{A}	Stockwatering, Recreational
22481-A	060166	Coburn Haskell DBA Haskell Stock Farm		Unnamed Stream	NE	SE	25	20N	7W	M	10.5 af	12/1 - 3/15	Stockwatering, Recreational
22481-A	060166	Coburn Haskell DBA Haskell Stock Farm		Unnamed Stream	NW	SW	31	20N	6W	M	11 af	12/1 - 3/15	Stockwatering, Recreational
22481-A	060166	Coburn Haskell DBA Haskell Stock Farm		Unnamed Stream	SE	SW	7	19N	6W	M	3 af	12/1 - 3/15	Stockwatering, Recreational
22558-A	082466	Lloyd R. & Ruby R. Leith		2 Unnamed Springs	NE	SW	10	29N	10W	M	0.2 cfs	1/1 - 12/31^{A}	Irrigation, Domestic, Stockwatering
22576-A	091566	Norman E. & Lillian Mareteller		Unnamed Gulch	NE	NE	7	28N	8W	M	5 af	10/1 - 5/1	Stockwatering, Recreational, Fish Culture
22602-A	100766	Max H. & Nenrietta E. Small		South Fork Cottonwood Creek	SW	SE	20	27N	6W	M	**4,500 gpd	1/1 - 12/31^{A}	Stockwatering
22602-A	100766	Max N. & Henrietta E. Small		South Fork Cottonwood Creek	NE	NW	21	27N	6W	M	**4,500 gpd	1/1 - 12/31^{A}	Stockwatering

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TABLE 5

INDEX TO SURFACE WATER DIVERSIONS

Diversion Name or Owner	Diversion Location	Subunit and County	Page References	
			Volume I	Volume II
Alford, R. V.	D-27N/7W-6A1	Dry Creek Tehama	11	60
Anderson, Dewey & Burgess, C. W.	18N/7W-30R1	Stonyford Colusa	17	106
Anderson Ditch Esmond, Bert C. & Elsye	32N/6W-20F1	Clear Creek Shasta	9	34
Antelope Lumber Co. Forward Bros.	27N/7W-31D1	Cold Fork Tehama	11	60
Arnett, Floyd	23N/6W-17H1	Newville	13	86
	23N/6W-21P1	Newville Tehama	13	
Asdell, Hattie M.	20N/6W-17J1	Stony Gorge Glenn	19	100
Atkins, Dr. Sharon M.	29N/9W-35N1	Dry Creek Shasta	11	50
Baker, John G.	29N/6W-20F1	Beegum Creek Tehama	8	54
Barr, James J.	30N/7W-10Q1	Ono Shasta	14	42
	30N/7W-11P1	Ono Shasta	14	42
	30N/8W-6F1	Beegum-Cottonwood Tehama	8	40
Bee Creek Ditch Bee Creek Ditch & Water Assoc.	30N/7W-10E1	Ono Shasta	14	42
Brown Ditch #1 Gilman, D. A. & Moore, J. D.	18N/6W-30Q1	Stonyford Colusa	16	108
Brown Ditch #2 O'Leary, Charlie & Gilman, D. A. Dooling, Ray	18N/6W-21N1	Stonyford Glenn	16	108
Brown, A. L.	33N/7W-21A1	Clear Creek Shasta	10	26
	33N/7W-21B1	Clear Creek Shasta	10	26
Buckley, Jane E.	See: Kesselring Ditch			
Burch, William H.	29N/9W-9L1	Beegum Creek	8	38
	29N/9W-9L2	Beegum Creek Shasta	8	38

TABLE 5 (Continued)
INDEX TO SURFACE WATER DIVERSIONS

Diversion Name or Owner	Diversion Location	Subunit and County	Page References	
			Volume I	Volume II
Burger, Carl	31N/7W-23H1	Ono Shasta	14	34
Burrill, Lester I.	27N/7W-24K1	Cold Fork Tehama	11	62
Butler	See: Kesselring Ditch			
Candeias, Manuel & Morris, John Wayne	See: Lewis Ditch			
Cliff Cattle Co., Ltd.	27N/6W-18E1	Cold Fork	10	62
	D-27N/7W-25E1	Tehama	11	
Cooley, F. H.	16N/7W-8K1	East Park	11	114
	16N/7W-8L1	East Park Colusa	11	
Cushman, Clyde E.	22N/6W-31H1	Grindstone Creek	12	94
	22N/6W-31J1	Grindstone Creek Glenn	12	
Davidson, John W.	32N/7W-2P1	Clear Creek Shasta	9	28
Davilla, Eugene M.	20N/6W-7A1	Stony Gorge Glenn	18	100
Davis, Robert O.	33N/6W-29Q1	Clear Creek Shasta	9	28
Davis, Warren	19N/6W-8J1	Stony Gorge Glenn	18	100
Dooling, Ray	See: Brown Ditch #2			
Drew, James E. & Spurlock, Clair	21N/6W-29C1 See Also: Tankersley, T. M. & Irene	Stony Gorge Glenn	19	94
Duggan, Florence	33N/7W-2A1	Clear Creek	9	22
	33N/7W-2L1	Clear Creek	9	26
	33N/7W-2L2	Clear Creek	10	26
	33N/7W-2M1	Clear Creek Shasta	10	26
Durham, Marion W.	See: Kesselring Ditch			

TABLE 5 (Continued)

INDEX TO SURFACE WATER DIVERSIONS

Diversion Name or Owner	Diversion Location	Subunit and County	Page References	
			Volume I	Volume II
East Park Feed Canal USBR	18N/7W-35K1	Stonyford Colusa	17	116
East Park Reservoir USBR	17N/6W-3B1	East Park Colusa	12	116
Elk Creek Ranch Co.	20N/7W-2E1	Stony Gorge Glenn	19	100
Elk Creek Water Co.	See: Stony Gorge Reservoir			
Ellis, Earle & Shirley	21N/6W-22E1	Stony Gorge Glenn	19	94
Ellsworth Ditch Hubbard, Millard C.	31N/6W-17G1	Clear Creek Shasta	8	34
Erich, E. E.	See: French Gulch Ditch System			
Esmond, Bert C. & Elsye	See: Anderson Ditch			
Evans, G. H.	See: Lovelady Ditch			
Ferris, Bob	See: Kesselring Ditch			
Fife, James & Rose & Keefer, James	34N/7W-23J1	Clear Creek Shasta	10	22
Finnell Ranch	D-23N/6W-28B1	Newville	13	86
Finnell, Simpson Jr.	D-23N/6W-15M1	Tehama	13	86
Forward Brothers	See: Antelope Lumber Co.			
Foster, William, Jr.	34N/7W-36M1	Clear Creek Shasta	10	22
French Gulch Ditch System Erich, E. E.	33N/7W-15J1	Clear Creek Shasta	10	26
Gaddini, Alfred	18N/6W-21J1	Stonyford	16	108
	18N/6W-21R1	Stonyford	16	
	18N/6W-22D1	Stonyford	16	
	18N/6W-27C1	Stonyford Glenn	16	
Gilman, Dan, Cathline & Lexandra	See: Lower Lake			
Gilman, D. A.	See: Brown Ditch #1 & Brown Ditch #2			

TABLE 5 (Continued)
INDEX TO SURFACE WATER DIVERSIONS

Diversion Name or Owner	Diversion Location	Subunit and County	Page References	
			Volume I	Volume II
Glenco Forest Products	20N/6W-16L1 See Also: Stony Gorge Reservoir	Stony Gorge	19	100
Grahl, John A.	18N/7W-32G1	Stonyford Colusa	17	114
Graves, Marvin	27N/6W-16P1	Cold Fork Tehama	10	62
Graves, Roy A.	30N/8W-28J1	Beegum Creek Shasta	8	40
Groteguth Bros.	19N/6W-2C1	Stony Gorge Glenn	18	100
	20N/6W-33D1	Stony Gorge Glenn	19	100
Happy Valley Water Company	30N/7W-2H1	Ono	14	44
	31N/6W-20Q2	Clear Creek	8	34
	31N/6W-21D1	Clear Creek	8	34
	31N/7W-36C1	Ono	15	34
	See Also: Happy Valley Irrigation Canal and Musselbeck Dam	Shasta		
Happy Valley Irrigation Canal & Happy Valley Water Co.	31N/7W-31P1	Ono Shasta	15	42
Harman, William	18N/6W-2E1	Stonyford Glenn	15	108
Henke, Lawrence	30N/7W-8C1 See Also: Owen, George	Ono Shasta	14	42
Herman, Dorothy	32N/6W-9L1	Clear Creek Shasta	9	28
Hildebrand, J. A.	33N/7W-11F1	Clear Creek Shasta	10	28
Hoff, Peter	27N/7W-1N1	Cold Fork Tehama	11	62
Hubbard, Mrs. Herbert	32N/7W-4H1	Clear Creek Shasta	9	26
Hubbard, Millard C.	See: Ellsworth Ditch			
Indian Valley School District	See: Kesselring Ditch			
Jamieson, H. W.	20N/6W-3G1	Stony Gorge	18	100
	20N/6W-9B1	Stony Gorge Glenn	18	100
Jeffers, Sheldon	23N/7W-15D1	Thomes Creek Tehama	20	84

TABLE 5 (Continued)

INDEX TO SURFACE WATER DIVERSIONS

Diversion Name or Owner	Diversion Location	Subunit and County	Page References	
			Volume I	Volume II
Jennings, Mehrle	34N/6W-31K1	Clear Creek Shasta	10	22
Johnson, Maynard & Ida Mae	21N/6W-27L1	Stony Gorge	19	94
	21N/6W-27M1	Stony Gorge Glenn	19	94
Jones, Leslie	31N/6W-20Q1	Ono Shasta	14	34
Judy, Mrs. Dorothy	22N/6W-4N1	Newville	12	86
	22N/6W-8Q1	Newville	12	86
	22N/6W-17L1	Newville Glenn	12	86
Kallerup, George C.	32N/6W-17R1	Clear Creek Shasta	9	34
Keefer, James	See: Fife, James & Rose			
Kerns, E. G. & Elaine	18N/6W-10P1	Stonyford	15	108
	18N/6W-11Q1	Stonyford	16	110
Kesselring Ditch Buckley, Jane E. Butler Durham, Marion W. Ferris, Bob Indian Valley School District Lyman, Maude E. Martinez, Joe Schaffer, Arthur W. Shimmel, Phil B. Stony Creek Horsemans Assoc. Stonyford Catholic Church Summers, Eva United States Forest Service	18N/6W-31C1	Stonyford	16	108
Kirkpatrick, O. A.	16N/7W-16L1	East Park Colusa	11	120
Knight, Richard	19N/6W-22K1	Stonyford Glenn	18	108
Leidy, Roger J.	18N/7W-9A1	Stonyford	17	106
	18N/7W-9A2	Stonyford Glenn	17	106
Letts Lake USDA - Forest Service Mendocino National Forest	17N/8W-24P1	Stonyford Colusa	15	114

TABLE 5 (Continued)

INDEX TO SURFACE WATER DIVERSIONS

Diversion Name or Owner	Diversion Location	Subunit and County	Page References	
			Volume I	Volume II
Lewis Ditch Manuel Candeias & John Wayne Morris	18N/7W-36E1	Stonyford	17	116
Lower Lake Gilman; Dan, Cathline, & Lexandra	18N/6W-7H1	Stonyford Glenn	15	108
Lovelady Ditch Evans, G. H.	16N/7W-21B1	East Park Colusa	12	120
Lyman, Maude E.	See: Kesselring Ditch			
Maddux, Enon (M.X. Ranch)	18N/6W-26K1	Stonyford	16	110
	18N/6W-23J1	Stonyford Colusa	16	110
Martinez, Joe	See: Kesselring Ditch			
Millsaps, R. B.	22N/6W-29K1	Newville	12	94
	22N/6W-29K2	Newville	12	94
	22N/6W-29L1	Newville Glenn	13	94
Moody, Arthur J.	18N/6W-32G1	Stonyford Colusa	17	116
Moore, Earl R.	18N/6W-31D1	Stonyford Glenn	16	108
Moore, J. D.	See: Brown Ditch #1			
Moore, Joseph E.	20N/7W-22J1	Stony Gorge Glenn	19	98
Moore, Lawrence	18N/6W-4A1	Stonyford	15	108
	19N/6W-16M1	Stonyford	18	108
	19N/6W-20MI	Stonyford	18	108
	19N/6W-29LI	Stonyford Glenn	18	108
Morgan, C. A.	17N-6W-17J1	East Park Colusa	12	116
Morris, A. J.	18N/7W-32E1	Stonyford Colusa	17	114
Morris, John Wayne	See: Lewis Ditch			
Murphy, J. C.	23N/7W-14K1	Thomes Creek Tehama	20	86
Musselbeck Dam Happy Valley Water Co.	31N/7W-31A1	Ono Shasta	15	32
Niebuher, K. E.	16N/6W-2C1	East Park Colusa	11	118
O'Leary, Charlie	See: Brown Ditch #2			

TABLE 5 (Continued)

INDEX TO SURFACE WATER DIVERSIONS

Diversion Name or Owner	Diversion Location	Subunit and County	Page References	
			Volume I	Volume II
Owen, George and Regina G.	30N/7W-8FI	Ono-Shasta	14	42
Owens, Elwood E.	28N/7W-24AI	Dry Creek-Tehama	11	54
Paxton, Mrs. Ardis	31N/6W-19VI	Clear Creek - Shasta	8	34
Powers, Eugene	31N-7W-25L1	Ono-Shasta	14	34
Prine, J.R. ("Red")	D-23N/6W-29G1	Newville-Tehama	13	86
	D-23N/6W-30FI	Newville-Tehama	13	86
	D-23N/6W-30RI	Newville-Tehama	13	86
Schaffer, Arthur W.	See Kesselring Ditch			
Schmitt, J. W.	31N/7W-32RI	Ono-Shasta	15	42
Selvester, Mrs. Maybelle	29N/8W-4FI	Beegum Creek-Shasta		40
Shimmel, Phil B.	See: Kesselring Ditch			
Shoup, Clarence E.	30N/7W-15PI	Ono-Shasta	14	42
Soeth, A. R.	19N/6W-16KI	Stonyford-Glenn	17	108
	19N/6W-16QI	Stonyford-Glenn	18	108
	19N/6W-27KI	Stonyford-Glenn	18	108
Soeth, Carl Jr.	18N/6W-11DI	Stonyford-Glenn	16	108
Soeth, J. B.	19N/6W-27JI	Stonyford-Glenn	18	108
Southern Pacific Railroad Co.	32N/7W-17GI	Clear Creek-Shasta	9	34
Spurlock, Clair	See: Drew, James E.			
Stocking, G. W.; Walkup, Harold & Leroy	18N/6W-31EI	Stonyford-Colusa	17	116
Stony Creek Horsemen's Assn.	See: Kesselring Ditch			
Stonyford Catholic Church	See: Kesselring Ditch			
Stony Gorge Reservoir USBR, Glenco Forest Products	20N/6W-16JI	Stony Gorge-Glenn	19	100
Story, Fred	31N/6W-16MI	Clear Creek-Shasta	8	34
Sullivan, John J. & Catherine	30N/6W-16MI	Ono-Shasta	13	44
Summers, Eva	See: Kesselring Ditch			
Tankersley, T. M. & Irene	21N/6W-16JI	Grindstone Creek-Glenn	12	94
Taylor, Jim W.	30N-7W-2L1	Ono-Shasta	14	
Tehama, County of	D-24N/6W-35CI	Thomes Creek - Tehama		
United States Bureau of Reclamation	See: East Park Feed Canal East Park Reservoir Stony Gorge Reservoir			
U.S.D.A. Forest Service Mendocino National Forest	See: Kesselring Ditch & Letts Lake			

TABLE 5 (Continued)
INDEX TO SURFACE WATER DIVERSIONS

Diversion Name or Owner	Diversion Location	Subunit and County	Page References	
			Volume I	Volume II
Vergnes, Chester	32N/6W-701	Clear Creek-Shasta	9	28
Vergnes, Chester & Joe	32N/7W-12JI	Clear Creek-Shasta	9	28
Wahl, Agnes, Estate of	D-23N/6W-19HI	Newville-Tehama	13	86
	D-23N/6W-29EI	Newville-Tehama	13	
Walden, Robert A. & Rosemary	30N/6W-27MI	Ono-Shasta	13	44
Walkup, Harold & Leroy	See: Stocking, G. W.			
Watts, Dr. Joseph & Anna May	20N/6W-31MI	Stony Gorge-Glenn		100
	20N/7W-25JI	Stony Gorge-Glenn	19	100
Webb, Mrs. Nancy M.	30N/7W-14LI	Ono-Shasta	14	44
	30N/7W-22EI	Ono-Shasta	14	42
	31N/8W-25AI	Ono-Shasta	15	32
Wilson, Willis	17N/6W-23NI	East Park-Colusa	12	116
Wright, Frank C.	31N/6W-20QI	Clear Creek-Shasta	8	34

CHAPTER III. LAND USE

This chapter presents the results of the survey of land use in the Sacramento Valley West Hydrographic Unit in 1959. The status of land use at this time serves as a base for projections of future land use patterns by which future water requirements will be estimated. The methods and procedures followed in the survey and in processing the data, as well as the various categories of land use, are described in Appendix A. The results of the survey are summarized in Table 6, "Land Use".

During the survey, each irrigated parcel was identified with its particular water supply, either ground water or one of the surface water diversions described in Chapter II. From this information the acreage of each crop and of fallow or idle land associated with each supply was determined. These acreages are given in Table 7, "Irrigated Lands".

Maps showing the land use delineations made during the survey and a legend of land use symbols are presented in Volume II, published separately in April 1965.

TABLE 6
LAND USE

(1959, in acres)

Subunit and County	Irrigated lands	Naturally high water table lands		Dry-farmed lands	Urban lands	Recreational lands			
		Meadowlands	Marsh			Residential	Commercial	Campsites	Parks
Beegum-Cottonwood									
Shasta	24	27	0	66	30	4	7	30	0
Tehama	0	3	0	72	0	0	1	0	0
Subunit Total	24	30	0	138	30	4	8	30	0
Clear Creek									
Shasta	113	4	0	0	247	0	29	5	0
Cold Fork									
Tehama	12	101	0	30	0	7	38	0	0
Dry Creek									
Tehama	22	2	0	0	0	0	0	0	0
East Park									
Colusa	64	18	57	1,752	4	0	0	3	0
Elder Creek									
Tehama	0	25	0	337	0	0	0	0	0
Grindstone Creek									
Glenn	38	18	0	555	11	4	0	21	0
Tehama	0	0	0	0	0	6	4	5	0
Subunit Total	38	18	0	555	11	10	4	26	0
Ono									
Shasta	552	5	0	98	15	0	0	0	0
Stonyford									
Colusa	346	118	0	75	62	4	0	16	0
Glenn	719	0	91	954	0	0	0	0	0
Lake	0	13	0	0	0	0	0	0	0
Subunit Total	1,065	131	91	1,029	62	4	0	16	0
Stony Gorge									
Glenn	219	0	0	936	38	24	0	0	0
Thomes Creek									
Tehama	1	33	1	16	7	5	0	1	0
Newville									
Glenn	0	0	0	384	5	0	0	0	0
Tehama	0	0	5	309	0	0	0	0	0
Subunit Total	0	0	5	693	5	0	0	0	0
County Totals									
Colusa	410	136	57	1,827	66	4	0	19	0
Glenn	976	18	91	2,829	104	28	0	21	0
Lake	0	13	0	0	0	0	0	0	0
Shasta	689	36	0	164	292	4	36	35	0
Tehama	35	164	6	764	7	18	43	6	0
Hydrographic Unit Total	2,110	367	154	5,584	469	54	79	81	0

TABLE 7
IRRIGATED LANDS
(1959,in acres)

Diversion Location	Diversion Name or Owner	Pasture					Orchard			Grain				Field Crops		Total Irrigated	Idle & Fallow	Total
		Alfalfa & Mixtures	Clover	Mixed	Native	Sudan	Apples	Walnuts	Other	Barley	Wheat	Oats	Misc	Corn	Misc			
BEEGUM-COTTONWOOD SUBUNIT																		
D-29N/8W-4F1		5														5		5
D-29N/9W-9L1					3^a											3^a		3^a
D-30N/8W-6F1		6														6		6
D-30N/8W-28J1				10												10		10
	Subunit Total (Tehama County Only)	11	0	10	3	0	0	0	0	0	0	0	0	0	0	24		24
CLEAR CREEK SUBUNIT																		
D-31N/6W-16M1							2									2		2
D-31N/6W-17G1									6^b							6^b		6^b
D-31N/6W-19J1				5												5		5
D-31N/6W-20Q1				1												1		1
D-31N/6W-20Q2				22												22		22
-21D1																		
D-31N/7W-31A1																		
-31P1																		
-36C1																		
(Ono Subunit)																		
D-31N/7W-31A1				1												1		1
-31P1																		
-36C1																		
(Ono Subunit)																		
D-32N/7W-4H1				3												3		3
D-33N/7W-2A1																	8	8
D-33N/7W-2L1				8												8		8
-2L2																		
-2M1																		

TABLE 7 (Continued)

IRRIGATED LANDS

(1959, in acres)

Diversion Location	Diversion Name or Owner	Pasture					Orchard			Grain				Field Crops		Total Irrigated	Idle & Fallow	Total
		Alfalfa & Mixtures	Clover	Mixed	Native	Sudan	Apples	Walnuts	Other	Barley	Wheat	Oats	Misc	Corn	Misc			
						CLEAR CREEK SUBUNIT (Continued)												
D-33N/7W-11F1				2	12											14		14
D-33N/1W-15J1				4												4		4
D-34N/6W-31K1					11											11		11
D-34N/7W-23J1				15												15		15
D-34N/7W-36M1				13												13		13
Surface Water:	Full Irrigation (Shasta County Only)	0	0	74	23	0	2	0	6^b	0	0	0	0	0	0	105	8	113
						COLD FORK SUBUNIT												
D-27N/6W-16F1				8												8	3	11
D-27N/7W-24K1							1									1		1
Surface Water:	Full Irrigation (Tehama County Only)	0	0	8	0	0	1	0	0	0	0	0	0	0	0	9	3	12
						DRY CREEK SUBUNIT												
D-29N/9W-35N				22^a												22^a		22^a
						EAST PARK SUBUNIT												
D-16N/6W-2C1																	7	7
D-16N/7W-8K1									2							2		2
-8L1																		
D-16N/7W-16L1							3^b									3^b		3^b
D-16N/7W-21B1				4												4		4
D-17N/6W-17J1				48^a												48^a		48^a
Surface Water:	Full Irrigation	0	0	4	0	0	3^b	0	2	0	0	0	0	0	0	9	7	16
	Partial Irrigation	0	0	48	0	0	0	0	0	0	0	0	0	0	0	48	0	48
	TOTAL (Colusa County Only)	0	0	52	0	0	3^b	0	2	0	0	0	0	0	0	57	7	64

TABLE 7 (Continued)
IRRIGATED LANDS
(1959, in acres)

Diversion Location	Diversion Name or Owner	Pasture					Orchard			Grain				Field Crops		Total Irrigated	Idle & Fallow	Total
		Alfalfa & Mixtures	Clover	Mixed	Native	Sudan	Apples	Walnuts	Other	Barley	Wheat	Oats	Misc.	Corn	Misc			
ELDER CREEK SUBUNIT (No Irrigated Lands)																		
GRINDSTONE CREEK SUBUNIT																		
D-21N/6W-16J1			9			11										20	15	35
D-22N/6W-31H1					3											3		3
D-22N/6W-31J1		—	—	0	—	—	—	—	—	—	—	—	—	—	—	0	—	0
Surface Water:	Full Irrigation (Glenn County Only)	0	9	0	3					0	0	0	0	0	0	23	15	38
NEWVILLE SUBUNIT (No Irrigated Lands)																		
ONO SUBUNIT																		
D-30N/6W-2H1				107												107		107
D-31N/7W-31A1																		
-31P1																		
D-30N/6W-16M1				17									24			41		41
D-30N/6W-27M1				9		8										17	15	32
D-30N/7W-8C1				4^{a}												4^{a}		4^{a}
D-30N/7W-8F1				2^{a}			2									4^{c}		4^{c}
D-30N/7W-10E1																	117	117
D-30N/7W-10Q1				5												5		5
D-30N/7W-14L1				14												14		14
D-30N/7W-22E1		5														5		5
D-31N/6W-20Q1				3												3		3
D-31N/6W-32N1				11												11		11
D-31N/7W-23H1					3											3		3
D-31N/7W-25L1					2											2		2
D-31N/7W-31A1				133												133		133
-31P1																		

TABLE 7 (Continued)

IRRIGATED LANDS

(1959, in acres)

Diversion Location	Diversion Name or Owner	Pasture					Orchard			Grain				Field Crops		Total Irrigated	Idle & Fallow	Total
		Alfalfa & Mixtures	Clover	Mixed	Native	Sudan	Apples	Walnuts	Other	Barley	Wheat	Oats	Misc	Corn	Misc			
						ONO SUBUNIT (Continued)												
D-31N/7W-36C1																		
D-31N/7W-32R1				55												55		55
D-31N/7W-36C1				5												5		5
D-31N/8W-25A1				11												11		11
Surface Water:	Full Irrigation	5	0	370	5	8	2	0	0	0	0	0	24	0	0	414	132	546
	Partial Irrigation	0	0	6	0	0	0	0	0	0	0	0	0	0	0	6	0	6
	TOTAL (Shasta County Only)	5	0	376	5	8	2	0	0	0	0	0	24	0	0	420	132	552
						STONYFORD SUBUNIT												
D-18N/6W-2E1				28												28		28
D-18N/6W-10P1												15	33			48	12	60
D-18N/6W-11D1				8												8		8
D-18N/6W-21J1				6				24								30		30
D-18N/6W-21N1			34			31				25	31				86	207		207
D-18N/6W-22D1																	19	19
D-18N/6W-27C1				11												11		11
D-18N/6W-30Q1				83		3				34	12			50		182	4	186
D-18N/6W-31C1		59		133				4							30	226	36	262
D-18N/6W-31D1		92														92	32	124
D-18N/6W-31E1				11												11		11
D-18N/6W-32G1															11	11		11
D-18N/7W-9A1					5											5		5
D-18N/7W-9A2					2											2		2
D-18N/7W-30R1				2					1							3		3
D-18N/7W-32E1				7												7		7
D-18N/7W-32G1				3												3		3
D-18N/6W-36E1		3		6												9	36	45

TABLE 7 (Continued)
IRRIGATED LANDS
(1959, in acres)

Diversion Location	Diversion Name or Owner	Pasture					Orchard			Grain				Field Crops		Total Irrigated	Idle & Fallow	Total
		Alfalfa & Mixtures	Clover	Mixed	Native	Sudan	Apples	Walnuts	Other	Barley	Wheat	Oats	Misc.	Corn	Misc			
						STONYFORD SUBUNIT (Continued)												
D-19N/6W-22K1																	20	20
D-19N/6W-27J1		12	—	11	—	—	—	—	—	—	—	—	—	—	—	23	—	23
Surface Water:	Full Irrigation	166	34	309	7	34	0	28	1	59	43	15	33	50	127	906	159	1065
	Colusa County	97	0	164	0	3	0	4	1	0	0	0	0	0	41	310	36	346
	Glenn County	69	34	145	7	31	0	24	0	59	43	15	33	50	86	596	123	719
						STONY GORGE SUBUNIT												
D-20N/6W-3G1				51												51		51
D-20N/6W-9B1				35[d]												35[d]		35[d]
D-20N/7W-2E1																	57	57
D-20N/7W-22J1				10		7										17	50	67
D-21N/6W-27L1				8												8		8
Surface Water:	Full Irrigation	0	0	104	0	7	0	0	0	0	0	0	0	0	0	111	107	218
Ground Water		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL (Glenn County Only)		0	0	105	0	7	0	0	0	0	0	0	0	0	0	112	107	219
						THOMES CREEK SUBUNIT												
D-23N/7W-14K1					1											1		1
Surface Water:	Full Irrigation (Tehama County Only)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1
							SUMMARY											
Summary:																		
Colusa County																		
TOTAL	(All Surface Water)	97	0	216	0	3	3	4	3	0	0	0	0	0	41	367	43	410
Glenn County																		
	Surface Water Supply	69	43	250	10	49	0	24	0	59	43	15	33	50	86	731	245	976
	Ground Water Supply	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL		69	43	251	10	49	0	24	0	59	43	15	33	50	86	732	245	977

TABLE 7 (Continued)

IRRIGATED LANDS

(1959, in acres)

Diversion Location	Diversion Name or Owner	Pasture					Orchard			Grain				Field Crops		Total Irrigated	Idle & Fallow	Total
		Alfalfa & Mixtures	Clover	Mixed	Native	Sudan	Apples	Walnuts	Other	Barley	Wheat	Oats	Misc	Corn	Misc			
Summary:							SUMMARY (Continued)											
Lake County							(No Irrigated Lands)											
Shasta County																		
TOTAL (All Surface Water)		16	0	460	31	8	4	0	6	0	0	0	24	0	0	549	140	689
Tehama County																		
TOTAL (All Surface Water)		0	0	30	1	0	1	0	0	0	0	0	0	0	0	32	3	35
Sacramento Valley West Hydrographic Unit																		
Surface Water Supply		182	43	956	42	60	8	28	9	59	43	15	57	50	127	1679	431	2110
Ground Water Supply		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL		182	43	957	42	60	8	28	9	59	43	15	57	50	127	1680	431	2111

Footnotes:

a - Received partial irrigation only
b - Intercropped with mixed pasture
c - A portion of this acreage received only partial irrigation
d - Supplemented by ground water

CHAPTER IV. LAND CLASSIFICATION

This chapter presents the results of a classification of the lands within the Sacramento Valley West Hydrographic Unit. The lands were classified as to their suitability for development which would require intensive water service. Lands suitable for irrigated agriculture and for recreational development were mapped. Explanations of the methods and procedures used in this classification and of the criteria followed are presented in Appendix A.

The acreages of each classification in the hydrographic unit are tabulated by subunits and counties in Table 8. A total of 65,610 acres are reported as irrigable agricultural lands, which amount to about 5.5 percent of the unit. About 1.5 percent consists of existing urban lands, lands highly suitable for recreation development that might require water service, marshlands, and lands that meet the standards for an irrigable classification, but due to position, vegetative cover, or present utilization are deemed best suited to remain under forest or range management. The remaining 93.0 percent consists of lands not well suited for any type of development requiring water service.

Maps showing the land classification delineations made during the survey and a legend of the land classification symbols are presented in Volume II, published in April 1965.

TABLE 8
CLASSIFICATION OF LANDS
(in acres)

Subunit & County	Irrigable agricultural lands																	Urban lands (1961)	Recreational lands				Miscellaneous lands	
	Smooth lying					Gently sloping						Steeply sloping					Total							
	V	Vw	Vl	Vp	Vr	H	Hw	Hl	Hp	Hpr	Hr	M	Mw	Mp	Mpr	Mr		UO	RR	RC	RT	Total	F	Vm
Beegum-Cottonwood																								
Shasta	60	0	80	440	0	60	30	40	1,550	110	10	270	0	750	50	0	3,450	30	0	10	110	120	350	0
Tehama	190	0	50	10	0	50	0	0	650	20	0	0	0	90	10	0	1,070	0	0	0	180	180	2,920	0
Total	250	0	130	450	0	110	30	40	2,200	130	10	270	0	840	60	0	4,520	30	0	10	290	300	3,270	0
Clear Creek																								
Shasta	0	0	0	0	10	80	10	0	40	0	100	50	0	180	0	30	500	140	140	30	30	200	1,500	0
Cold Fork																								
Tehama	500	100	0	230	10	20	0	0	2,100	70	0	20	0	130	60	0	3,240	0	0	40	100	140	4,370	0
Dry Creek																								
Tehama	340	0	0	70	0	90	0	0	1,650	170	0	0	0	460	80	0	2,860	0	0	0	80	80	260	0
East Park																								
Colusa	2,880	20	0	280	0	1,780	0	0	3,060	0	0	100	0	1,380	0	0	9,500	10	550	0	330	880	240	60
Elder Creek																								
Tehama	440	20	0	0	0	490	10	0	280	30	0	90	0	1,340	0	0	2,700	0	0	0	50	50	940	0
Grindstone Creek																								
Glenn	970	10	0	800	0	750	0	0	1,550	0	0	60	10	560	0	0	4,710	10	250	0	380	630	3,010	0
Tehama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	20	90	130	1,060	0
Total	970	10	0	800	0	750	0	0	1,550	0	0	60	10	560	0	0	4,710	10	270	20	470	760	4,070	0
Ono																								
Shasta	230	0	0	70	0	590	10	0	2,250	140	30	1,410	0	4,100	0	0	8,830	20	0	0	0	0	120	0
Stonyford																								
Colusa	1,730	110	120	260	0	600	10	0	1,090	0	80	90	0	480	0	10	4,580	60	510	0	440	950	340	80
Glenn	2,880	0	0	830	230	1,720	0	0	1,870	20	240	180	0	500	0	70	8,540	0	20	0	170	190	660	0
Lake	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	150	0
Total	4,610	120	120	1,090	230	2,320	10	0	2,960	20	320	270	0	980	0	80	13,130	60	530	0	610	1,140	1,150	80
Stony Gorge																								
Glenn	2,190	0	0	690	0	2,430	0	0	3,030	0	0	190	0	920	0	0	9,450	90	30	0	100	130	1,950	0
Thomes Creek																								
Tehama	10	10	0	30	0	170	20	0	560	80	0	0	0	50	30	0	960	10	50	0	930	980	5,610	0
Newville																								
Glenn	760	0	0	460	0	10	0	0	1,050	0	0	0	0	620	0	0	2,900	0	0	0	10	10	400	0
Tehama	520	0	0	0	0	290	0	0	460	10	0	0	0	1,030	0	0	2,310	0	0	0	0	0	30	10
Total	1,280	0	0	460	0	300	0	0	1,510	10	0	0	0	1,650	0	0	5,210	0	0	0	10	10	430	10
Hydrographic Unit Total	13,700	280	250	4,170	250	9,130	90	40	21,190	650	460	2,460	10	12,590	230	110	65,610	370	1,570	100	3,000	4,670	23,910	150

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APPENDIX A. DESCRIPTION OF SURVEYS AND STANDARDS

This appendix provides detailed explanations concerning the surveys and data reported in the main text. It is divided into three sections, one relating to each of the three surveys. This information is generally applicable to all bulletins of the No. 94 series. Information peculiar to this hydrographic unit is given in the main text.

Water Use Survey

To report the "present use of water" in the unit, as directed by the Legislature in Paragraph (e) of the Water Code Section 232, it was first necessary to locate the surface water diversions. Those systems were located which appear to divert about 10 acre-feet or more of water per year. This minimum was adopted because it is the approximate amount of water used normally to irrigate 3 acres, the smallest parcel which could be mapped and processed by the methods used.

The locations of wells and the uses of ground water, other than its association with irrigated lands, are not reported here.

Methods and Procedures

Aerial photographs covering the entire unit and showing irrigated lands, reservoirs, etc., were the principal means of locating diversions. A list of the appropriative water rights on file with the State Water Rights Board was also helpful. In the field, some diversions were also located by investigating various water-using activities, by observing visible clues such as power lines and conduits, and by canvassing residents. Data such as descriptions of the systems, uses served, water rights, and histories were obtained through on-the-spot inspections and through interviews with the owners, operators, or other persons familiar with the various diversions. Some data thus obtained, particularly statements with regard to histories, were not verified, since a search of title records and similar sources was not within the scope of this investigation.

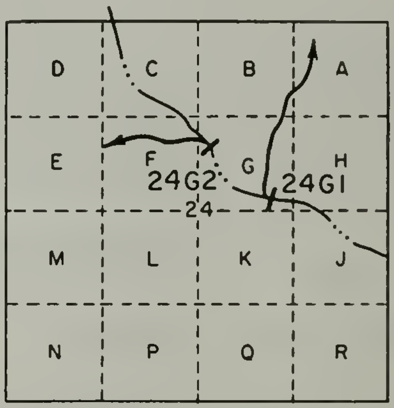
The location of each diversion was marked on the aerial photograph covering the particular area. Location numbers were assigned to all diversions as explained in the following subsection. These location numbers are used throughout the report to identify the individual diversions.

Systems only for storing water, as well as those which actually divert it from its natural course, were located. Those currently in use or to be completed within the year of survey, and also those used within the previous 5 years, unless definitely abandoned, were included. Reservoirs located along and operated in conjunction with ditches and pipelines, although mapped, were not considered as separate systems, and no location numbers were assigned to them. Similarly, points at which diversion conduits intercepted minor intermittent streams, and apparently received less than 10 acre-feet of water in addition to the primary supply, were not considered as separate diversions.

A system by which field runoff and/or spill from a diverter's own operation was collected was not considered a diversion nor assigned a location number. Systems which rediverted return flow from another water user's operation, however, were delineated and assigned location numbers.

Location System

Each surface water diversion is identified by a diversion location number. The location of a diversion on the aerial photograph, as determined in the field, was plotted on the U. S. Geological Survey quadrangle map of the area. Each location number includes the numbers of the township, range, and section in the federal land survey system where the diversion is situated. The sections are subdivided into 40-acre plots (quarter-quarter sections), and these are indicated in each location number by a letter following the section number. For example, in the illustration at the right, a diversion D-44N/2W-24G1, labeled "24G1", is in the southwest quarter of the northeast quarter of Section 24, Township 44 North, Range 2 West, Mt. Diablo Base and Meridian (MDB&M). Additional diversions in the same 40-acre plot are distinguised by replacing the final number "1" with a "2" or "3", etc., as for diversion D-44N/2W-24G2, etc.



Descriptions of Surface Water Diversions

The physical descriptions, histories, water rights, and other information relating to surface water diversions are given in the table, "Descriptions of Surface Water Diversions". Within the respective subunits, the diversions are listed by their location numbers in numerical order by township, range, and section. Each location number is followed by the name of the diversion and/or owner, the source, the purposes served, and the extent of use in the year of the survey. If a diversion did not serve its usual purpose in the year of the survey, this fact is noted in the "Remarks" column. The extent of domestic use is specified only when five or more connections are served. Watering of less than ten head of livestock is classified under domestic use.

Information concerning the water right on which each diversion is based, including the type, quantity, and reference to official record, if known, is reported in the "Apparent Water Right" column. This information as to the water rights under which the various diversions are made was obtained from the party interviewed, from files of the State Water Rights Board, and from other official records or sources available.

Although the reported water rights information meets the requirements for "apparent claims of water right" for the purposes of this investigation, its publication herein is not to be construed as evidence in confirmation of those claims. It should not, therefore, be used in the legal determination of water rights. A brief explanation of California Water Rights Law is presented in the following section.

Detailed descriptions of diversion systems, including dams, pumps, and main conduits, as well as any special features, are given in the "Description of System" column. The diversions are classified as gravity, pump, or storage, according to the following definitions:

> Gravity diversion - A system by which water is taken from its natural course at a diversion structure and conveyed by gravity through a canal or pipeline to the area of use. Such a diversion may have a reservoir on the stream, but the capacity is small compared with the amount of water diverted and provides no significant carryover seasonal storage.
>
> Pump diversion - A system by which water is pumped from its natural course through a pipeline to the area of use or to a gravity conduit located at a higher elevation.
>
> Storage diversion - A system consisting of or including a surface reservoir having significant carryover storage within each season or from season to season.

Systems not exclusively of one of these basic types are listed as combinations of those types which best describe them.

The "Remarks" column contains such information as the names of former owners, known changes of ownership after the year of study, combinations of diversions serving the same use, and special details explaining entries in the other columns.

California Water Rights

In California, water rights convey only the right to use water. Until absolute possession of water is acquired by some artificial means, no one owns water. However, the owner of water rights is entitled to enjoy them without interference by other users who have rights which are inferior to his.

Five kinds of water rights are recognized in California. These are riparian, overlying, appropriative, prescriptive, and pueblo. Riparian rights attach to surface water and water flowing in known and definite subterranean channels, while overlying rights attach only to underground water. Appropriative and prescriptive rights may be acquired in either surface or underground waters. Pueblo rights are now exercised in California only by the cities of Los Angeles and San Diego, each of which has a paramount right to satisfy its full needs from the stream system of waters flowing by the former Mexican pueblo from which each sprang.

All water rights, both to surface and to underground water, are subject to the doctrine of reasonable beneficial use expressed in Section 3 of Article 14 of the California Constitution, and Water Code Sections 100 and 101. This doctrine limits water rights to the quantity of water reasonably required for beneficial use and prohibits waste, unreasonable use, and unreasonable methods of use or diversion.

Riparian Rights. A riparian right entitles the owner of lands which border or front on a watercourse to take water therefrom for use on such lands within the same watershed. However, the rights of the owner of riparian land are limited to the reasonable beneficial use of the natural flow of water which passes his land. Riparian rights pass with the title to the land, unless expressly reserved or exempted from the interests transferred, and are not gained by use or lost by mere nonuse. Although the land must be contiguous to the watercourse, the length of the frontage is not determinative of the rights; a large tract with a small frontage on a stream may be riparian to the stream. But the original grant determines the character of the land, and only the smallest contiguous tract held under a single title retains riparian rights.

A riparian owner has no right to any specified amount of the water of a stream as against other riparian owners. He has rights only to a reasonable share from the stream -- a correlative right which he shares mutually with other riparian owners. In the event of insufficient water for all, the available supply must be apportioned, except that an upper riparian owner may take the whole supply if necessary for domestic use. As against appropriators, the riparian owner has the paramount right to all the water of the stream which he can put to reasonable beneficial use; but that is the extent of his rights, and the appropriator can take the surplus.

Riparian rights do not authorize use of water on nonriparian land, nor do they permit the seasonal storage of water. They do not prevent temporary appropriation by others of water not presently needed for use on riparian land.

A parcel of land becomes nonriparian when severed from land bordering the stream, unless the riparian rights are reserved for the severed parcel by the grantor. Riparian rights may be destroyed when purportedly transferred apart from the land by grant, contract, or condemnation, and may be impaired or lost through prescription.

Overlying Rights. Owners of lands overlying a common underground water supply have the right to withdraw water for reasonable beneficial use on their overlying lands. Such overlying rights are analogous to riparian rights, in that both are based on ownership of land contiguous to the supply and the rights of each overlying or riparian owner are mutual and correlative to the rights of all other owners of lands similarly related to the supply. In case of insufficient water to fully supply the requirements of all, the available supply must be equitably apportioned.

Overlying rights do not include use of water on nonoverlying land. However, surplus water not presently required for beneficial use on overlying land, and which may be withdrawn without creating an overdraft on the ground water supply, may be appropriated for use on nonoverlying land. But the overlying rights are paramount and all appropriative rights are subject to the future requirements of overlying land.

Appropriative Rights. An appropriation of water is any taking of water for use without riparian or overlying rights, whether such taking is from the underground by wells or from surface streams by direct diversion or storage. An appropriator, in the legal sense, is one who takes water without possessing rights which are based on the ownership of land. As between appropriators, the one first in time is first in right. A prior appropriator may take all the water he needs up to the full amount to which he is entitled before a later appropriator may take any.

Normally, appropriative rights are inferior to riparian rights. An exception to this is the case of an appropriation of water diverted from streams flowing through vacant public lands before the riparian lands were withdrawn from the domain of the United States. The appropriative diversions or the lands they serve may be either upstream or downstream from the riparian lands.

Any water not needed for the reasonable beneficial uses under prior rights to a supply may properly be appropriated. The priority of an appropriative right, as against another appropriator, is related back to the first substantial act toward putting the water to use or to the date of application.

Sections 1410 through 1422 of the Civil Code, enacted in 1872, established, as the first statutory regulation, a permissive procedure for perfecting an appropriation of surface water. Provision was made for posting a notice of appropriation at the proposed point of diversion and recording a copy with the county recorder. If the statutory procedure were followed and the appropriation completed with due diligence, priority was established only when the water was put to beneficial use.

Since the effective date of the Water Commission Act of 1913, December 19, 1914, appropriation of surface water and water in subterranean streams flowing in known and definite channels has been by compliance with required statutory procedure. An appropriation of such water now can be made in accordance with the provisions of Part 2, Division 2 of the Water Code (Water Code Sections 1200 to 1801). An application to appropriate unappropriated water must be filed with the State Water Rights Board. If the application is approved, a permit is issued authorizing the appropriation. When the appropriation has been completed, an inspection is made and a license is issued, to the extent of beneficial use, provided the terms and conditions of the permit have been fulfilled. The priority of a permit or license relates back to the date of application.

A right to appropriate water may be lost either by abandonment or by continuous nonuse. To constitute abandonment, there must be concurrence of act and intent, wherein possession is relinquished with no intent to resume it for a beneficial use. Abandonment is, therefore, always voluntary and factual. In the case of an appropriation initiated prior to 1914, continuous nonuse for a period of 5 years results in the loss of the right. In the case of appropriative rights acquired pursuant to the Water Commission Act or the Water Code, continuous nonuse for a period of only 3 years may result in loss of such rights.

Where ground water and surface water are interconnected, one acting as a tributary to the other, both are treated as part of a common supply and users of water from either source are entitled to protection from substantial injury as a result of use by others of water from the other source. Thus, an owner of land riparian to a stream may have his right to the use of water protected against impairment by an appropriator of percolating ground water tributary to the stream and required for the maintenance and support of its flow. Likewise, where water from a stream percolates to a ground water basin or stratum, the owner of land overlying the ground water supply may be protected from an appropriation of water from the stream if this causes a substantial impairment of the ground water supply. As between riparian use of surface water and overlying use of ground water tributary to the stream, the available water supply should be shared by the owners on the basis of reasonable beneficial use.

Surplus ground water not flowing in known and definite subterranean channels is still present in many areas of the State. Such surplus water may be appropriated for use on nonoverlying lands simply by extracting it and putting it to beneficial use. In Southern California, adjudication of some basins prohibits further appropriation of ground water. In Los Angeles, Riverside, San Bernardino, and Ventura Counties, reporting of ground water pumped is required under certain conditions.

Prescriptive Rights. It is possible to appropriate surface or ground water which is presently needed by others having riparian, overlying, or prior appropriative rights. Such appropriations may ripen into prescriptive rights where the use is actual, open and notorious, hostile and adverse of 5 years, made under claim of right, and with payment of taxes whenever such have been levied on the water rights. Absence of any of these essentials precludes the acquisition of prescriptive water rights.

Prescription thus requires that, for 5 years, the rightful owner either knows or should know of the adverse taking and fails to take any physical or legal steps to interrupt such taking. Irrespective of the needs or demands of the riparian, overlying, or prior appropriative user, an absolute right to only a fixed amount of water may be acquired by prescription. The quantity of such a right is determined by beneficial use. However, present use is the measure of the prescriptive right, and future needs cannot be included.

Riparian rights, overlying rights, appropriative rights, and prescriptive rights may be lost or diminished by prescription. While sufficient water is flowing in a stream to supply the wants of all parties, the use of the water by anyone does not deprive the others of their water supply. Such use is not an invasion of their rights and cannot, therefore, be a basis for a prescriptive right. The same principle applies to a downstream diversion of water as against the rights of an upstream riparian landowner or prior appropriator. At times when the safe yield of a ground water basin exceeds the needs of overlying landowners and appropriators, their prior rights are not invaded by a later appropriative taking of water from the underground supply. The later appropriation becomes adverse only when the ground water basin is overdrawn; that is, when the annual draft exceeds the safe annual yield. Although neither an overlying owner nor a prior appropriator may prevent a taking of surplus water, either the owner or the appropriator may institute legal proceedings to safeguard the supply once a surplus ceases to exist, and may enjoin any additional use beyond the point of safe yield. Since prescriptive rights can be acquired only to nonsurplus water, these rights cannot ordinarily be acquired against the future needs of riparian or overlying owners.

The prior appropriator, lower riparian, or overlying owner may protect his rights for his present needs against an adverse appropriator by actually taking the needed water before the 5-year period has run, or by the aid of the courts in the form of a declaratory judgment or injunction within the 5-year period.

Determination of Water Rights. Under provisions of the Water Code, actions brought before either state or federal courts which involve determination of rights to the use of water may, at the court's discretion, be referred to the State Water Rights Board. Under provisions of Water Code Section 2000, the court may appoint the Board to referee "any or all issues involved in the suit", or under Section 2001, it may limit the reference to "investigations of and report upon any or all physical facts involved". This reference procedure may be followed in suits involving either surface or ground waters, or both.

An alternative procedure for adjudication of rights to the use of water of streams, lakes, and other bodies of water is available upon petition to the State Water Rights Board, but the method excludes the determination of rights to take water from an underground supply other than from a subterranean stream flowing through known and definite channels. Water Code Sections 2500 to 2900, inclusive, authorize the initiation of such proceedings.

Land Use Survey

In this survey six categories of land uses were mapped -- irrigated lands; dry-farmed lands; urban lands; recreational lands; and naturally high-water-table lands, such as meadowlands and marshes. Lands not included in any of the above categories were mapped as "native lands". General explanations of the methods and procedures used in determining the land use categories are given in the following pages.

Methods and Procedures

Field Work. The land use survey was accomplished through (1) an intensive field inspection of the unit to identify all parcels of land devoted to specific uses, and (2) delineation of these parcels on aerial photographs.

The unit was traversed by automobile as completely as roads and terrain permitted. Areas inaccessible by automobile were inspected on foot where necessary. The use of stereoscopes to bring out relief was of great assistance in identifying on the photographs the areas of land use observed.

In the field survey each parcel of land was identified on the photograph on which it appeared and was then delineated and labeled according to the symbol designation system described in detail in the "Standard Land Use Legend". An example of land use delineated on an aerial photograph is given on page A-13.

Office Procedures. Processing of the field data consisted basically of (1) preparing maps of the field delineations, and (2) determining acreages of all the mapped areas.

After the field mapping, the data delineated on the photographs were transferred to copies of U. S. Geological Survey quadrangles maps having a scale of 1:24,000. This reproduction of the delineated areas at a common scale was necessary for accurate determination of acreages because of variation in the scale of the aerial photographs.

Reproductions of these maps were used in computing the acreages of the land uses. The delineated areas on these maps were manually cut out and carefully weighed on an analytical balance. The weights were converted to acreages by using the ratios of weight to acreage determined for the individual maps. This method has proven to be a very expedient and accurate means of area determination where many small parcels are involved. Reduced copies of these maps are presented in Volume II of this report. Each of these maps covers 7-1/2 minutes of latitude and longitude.

Complete tabulations of all land uses in the unit -- by county, by subunit, and by the "7-1/2 minute" quadrangles -- were obtained by machine data processing methods. The acreage data presented in this report are taken from the machine tabulations. The complete tabulations are kept on file by the Department of Water Resources.

Land Use Categories

Irrigated Lands. Irrigated lands, as designated in this report, include all agricultural lands which receive water artificially. These lands when noted in the field survey, were identified by the symbol "i" on the aerial photograph. The fields normally irrigated, whether or not irrigated in the year of survey were identified with their respective water sources. "Idle" irrigated lands are defined as lands which were not irrigated in the year of survey but had irrigation facilities and had been irrigated within the preceding 3 years. "Fallow" irrigated lands are those cultivated lands which have irrigation facilities and are normally irrigated, but at the time of survey were tilled and not cropped.

A special group, "partially irrigated" lands, includes those lands which, for some reason, received less than a full season's irrigation in the year of survey.

The irrigated lands within the various subunits are reported in Chapter III in the tables entitled "Land Use"and "Irrigated Lands". The acreage of each crop is reported, as well as the acreage of land usually irrigated but not cropped in the year of survey.

Naturally High Water Table Lands. In addition to the irrigated lands described above, there are lands supporting vegetation which uses water from a naturally high water table. These include such lands as mountain meadows and certain lands adjacent to lakes and streams. This category is divided into two classes: "meadows", where the water table is normally below the surface; and "marshes", which are under water much of the year.

Dry-farmed Lands. Dry-farmed lands are those lands which are cropped but which do not receive applied water. This category includes all lands so farmed, whether in crop or "fallow" at the time of survey. Lands were classified as "fallow" if tilled but without a crop.

Urban Lands. Urban lands include the total areas of cities, towns, small communities, and other developed residential, commercial, or industrial plots large enough to be delineated. Also included are parks, golf courses, race tracks, and cemeteries within or near urban areas. The reported acreages of urban land use represent gross delineations, including streets and vacant lots, and are therefore not necessarily fully developed at the time of survey. In this survey, the boundaries of urban communities were delineated to include all lands with a density greater than one house per two acres.

Recreational Lands. Four categories of recreational lands were mapped on the aerial photographs: (1) residential, (2) commercial, (3) camp and trailer sites, and (4) parks. Recreational "residential" lands include permanent and summer home tracts within primarily recreational areas. The estimated density of homes per acre was also indicated in the course of the survey. Recreational "commercial" lands include those containing motels, resorts, hotels, stores, restaurants, and similar commercial establishments in primarily recreational areas. Lands mapped in the "camp and trailer sites" category include those areas so used within primarily recreational areas and outside the boundaries of public parks. The entire area within the designated boundaries of public park-type tracts such as national monuments and parks, and state parks are included in the "parks" category.

Obviously, nearly all the mountainous, seashore, and water surface areas are suitable for some recreational use, such as hunting, fishing, hiking, picnicking, or water sports. However, for the purpose of this land use survey, except within the "parks" category, a recreational use was reported only on those lands occupied by some type of recreational development requiring water service.

Native Lands. Lands which were essentially in a native state were mapped as such. Scattered residences and other isolated uses less than 2 to 3 acres in size were also included in this category.

Land Classification Survey

Information as to the suitability of lands for irrigated agriculture or other water-requiring activities is the most vital information needed in determining the future water requirements of these lands. In the past, the Department of Water Resources has conducted reconnaissance land classification throughout the State. More detailed and uniform surveys covering the whole State are now needed. These surveys, now being performed, are being reported in the No. 94 Series of bulletins. Classification of lands suitable for water-using recreational development, which was not previously done, is also included in these surveys. This section describes the procedures and standards followed in these surveys.

The acreages of each classification are enumerated by subunits in the table, "Classification of Lands". Delineations of these classified lands are presented on the land classification figures in Volume II. A legend of all land classes and corresponding symbols is included with the figures.

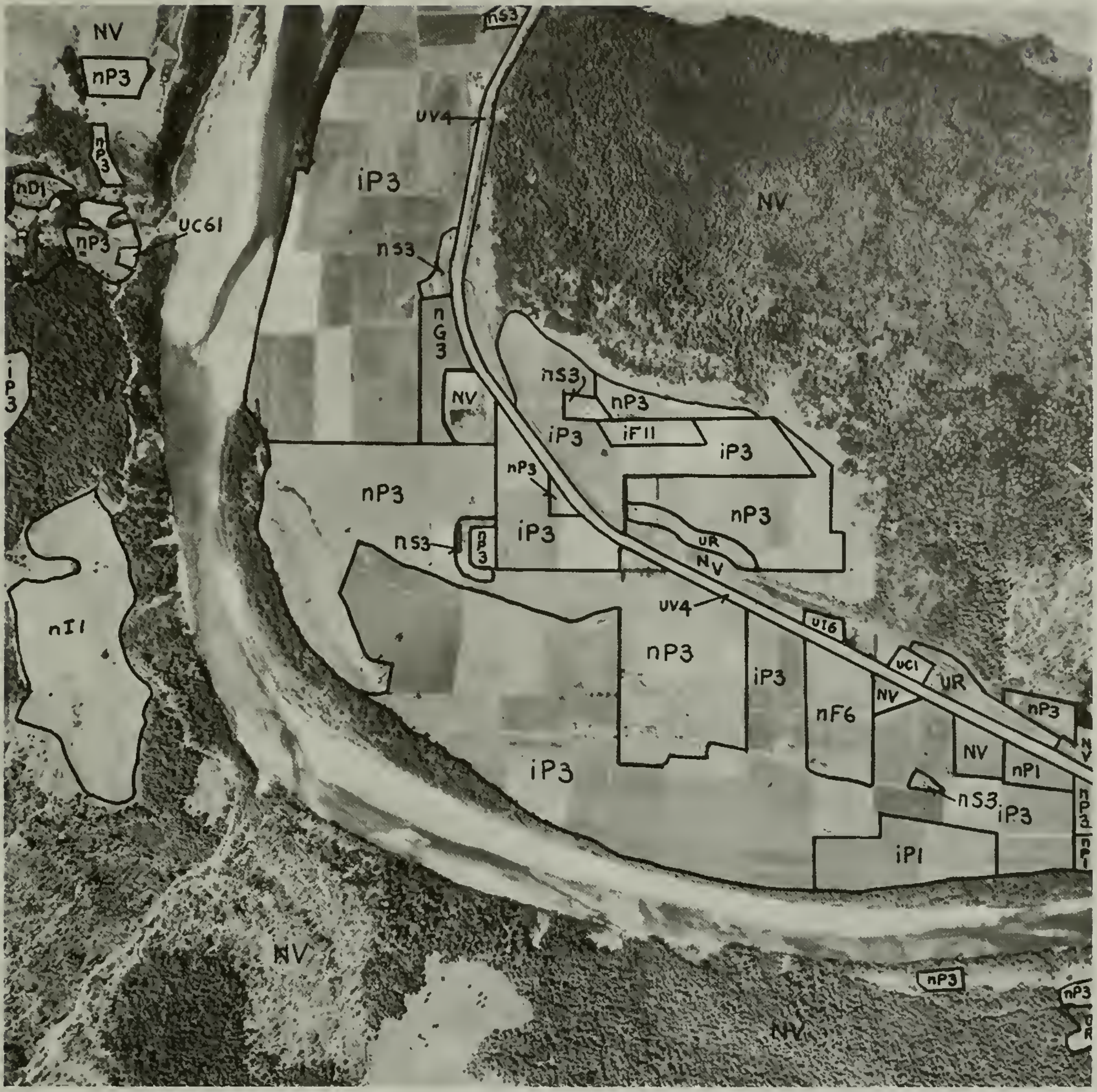
Methods and Procedures

The general methods and procedures used in field mapping, area determinations, and tabulation of acreages were essentially the same as those described for the land use survey. An example of land classification delineated on an aerial photograph is given on page 66. Complete machine tabulations of acreages, from which the data presented in the "Classification of Lands" table were extracted, are on file in the Department.

Major Categories of Land Classes

The lands mapped are grouped into four major categories: (1) irrigable lands, (2) urban lands, (3) recreational lands, and (4) miscellaneous lands. These categories are described in the following paragraphs. Lands not meeting the requirements for these classes might be considered a separate class but are not specifically defined.

Irrigable Lands. Irrigable lands are classed according to their crop adaptability and their suitability for development under irrigated agriculture. The time element with respect to when the lands might be developed did not enter into these determinations, except that suitability for irrigated agriculture was necessarily considered in the light of present agricultural technology.



Example of Land Use Delineated on Aerial Photograph

Symbols are explained in the "Land Use Legend."

Of the many factors which influence the suitability of land of irrigation development, soil characteristics and the physiography of the landscape are the most permanent and are, therefore, the only ones considered in the survey. Soil characteristics were determined by examination of road cuts, ditch banks, and the material from test holes, together with observations of the type and density of native vegetation and cultivated crops. Representative slopes throughout the area were determined by clinometer. Other aspects, such as those economic factors related to production and marketing, location of lands with respect to a water supply, and climatic conditions, were not considered in the basic classification. The latter factors are very important in estimating the nature of future cropping patterns and practices and will be duly considered when future water requirements are estimated.

Urban Lands. Those lands devoted to urban uses during the land use survey, including cemeteries and golf courses near urban areas, are designated as "urban" lands. It is recognized that much of the future urban expansion will occur on irrigable lands. The location and extent of this type of development is a function of many variables. Because this land classification survey is an inventory of relatively unchanging physical conditions, no attempt was made to locate the areas of future urban development.

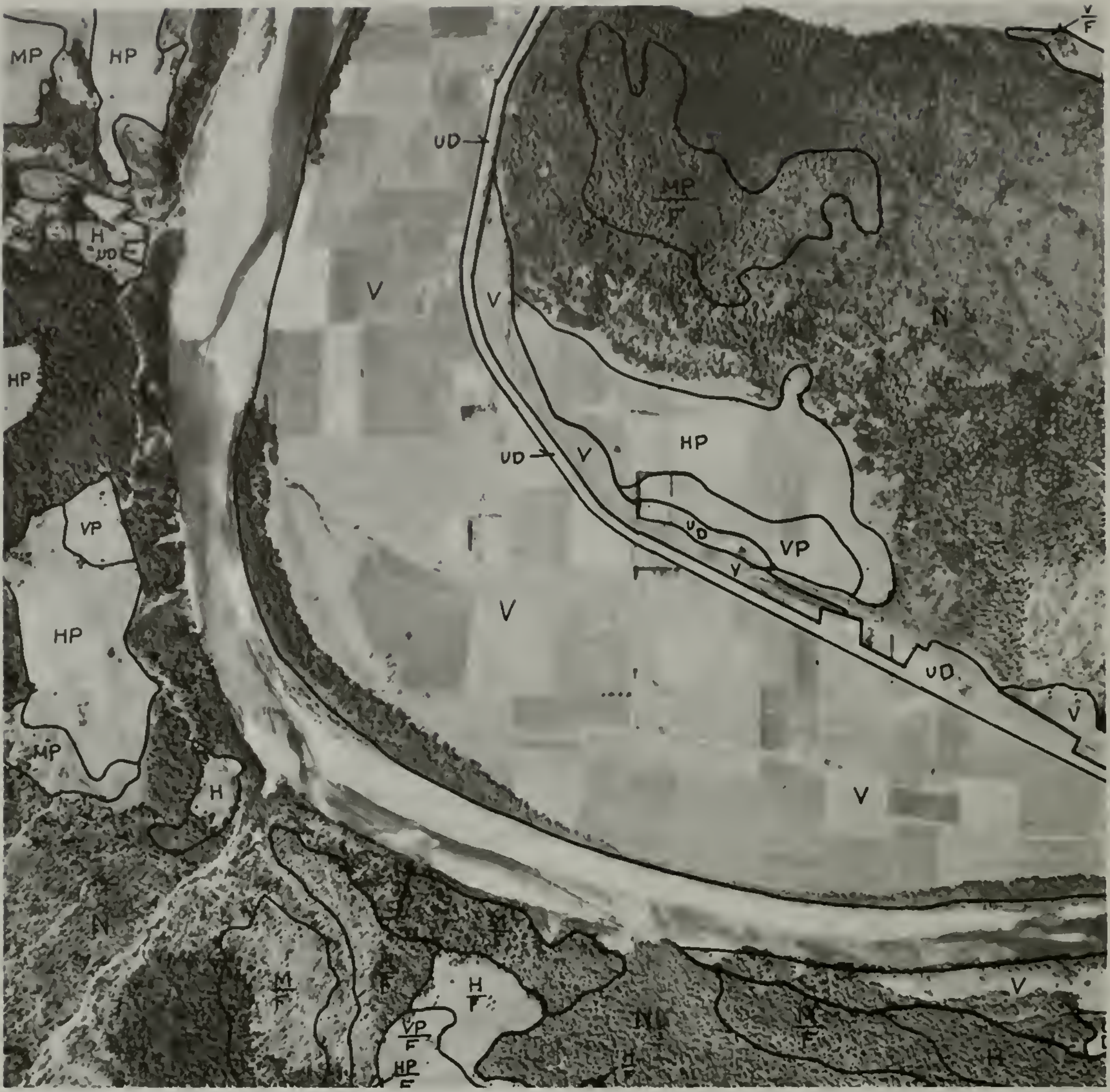
Recreational Lands. Present trends indicate an expanding rate of use and demand for recreational facilities throughout the State. In view of these trends and the ever-increasing population, it is recognized that there will be a demand for substantial land areas for recreation. This is particularly true of the mountainous and coastal regions, where this type of development is expanding rather rapidly.

Nearly all the mountainous and coastal lands are suitable for some type of recreational use such as hunting, fishing, and other outdoor activities. For purposes of this survey, however, lands classified for recreational use are limited to those which are not now, or may be in the future, used intensively for (1) permanent and summer home tracts, (2) camp and trailer sites, (3) commercial establishments such as motels, resorts, etc., in primarily recreational areas, and (4) parks outside urban areas. These are uses which, when developed, will require water service to some degree.

Primary considerations for classification of home tracts and camp and trailer sites were (a) physical factors such as soil depth, slope, and rockiness, (b) aesthetic values such as view, proximity to lakes, streams or seashore, and density and type of forest canopy, and (c) the plans of federal and state forest officials. Availability of water supply was an important factor in the selection of potential camp and trailer sites, but remoteness from roads did not influence site selection.

As in the land use survey, the total areas of existing federal and state parks and monuments, rather than the specific areas of potential intensive development therein, are included in the "parks" class. For other parks, only the areas presently developed to intensive recreational use are shown. No attempt has been made to predict where additional park developments will take place.

Miscellaneous Lands. "Irrigable forest and range" lands are those lands having physical characteristics which meet the requirements for irrigable lands. However, due to physiographic position, climatic conditions, and factors associated with their present utilization, they were classified as better suited to remain under forest or range management. Lands which were designated in the land use survey as "marshlands" were identified in the classification survey as "Vm".



Example of Land Classification Delineated on Aerial Photograph

Symbols are explained in the "Land Classification Legend".

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